EDADES

1. C. actual Nancy = x

$x+5 = \frac{3}{2}(x-6)$

$2x+10 = 3x+18$

$x = 28$

en 6 años → 34 años

2.

	Hace 9	actual
Rox.	$3x-9$	$3x$
Van.	$x-9$	x

Suma 22

	actual	dentro de 10
Gnr.	4y	4y+10
Fsto.	y	y+10

3. $(x+4)+(2x+5)=39$

$3x+9=39$

$x=10$

4. $4x+8 = \frac{1}{2}(3x+14)$

$8x-16 = 3x+14$

$5x=30$; $x=6$

edad actual → 18 años

5. $2x = 24+48$

$x=36$

9. $6x-2=7(x+2)$

$6x+2=7x-14$

$x=18$

10. $7x-5=9(x-5)$

$7x-5=9x-45$

$2x=40$

$x=20$

11. $5x=50$ tengo 30 años

$x=10$

12. $2x-15=3(x-15)$

$2x+15=3x-45$ Suma

$x=30$ $30+60=90$

13. $3x-10=4(x-10)$

$3x-10=4x-40$

$x=30$ actual +80

14. $14x=28$

$x=2$ tengo 10

15. $2x-15=\frac{3}{5}(x-15)$

$2x-15=3x-45$

$x=30$ $30+60=90$

SUMA NOTABLES

1. $E=1+3+5+7+\ldots+105$

$2n-1=105 \Rightarrow n=53$

$E=53^2=2809$

$A=2+4+6+\ldots+162$

$2n=162 \Rightarrow n=81$

$A=81\times82=6642$

$N=1+2+3+4+\ldots+142$

$N=\frac{142\times143}{2}=10153$

2. $E=29+30+31+\ldots+68$

$E=\frac{68\times69}{2}-\frac{28\times29}{2}$

$E=1940$

$F=35+37+39+\ldots+81$

$F=41^2-17^2$

$F=1392$

$P=18+20+22+\ldots+74$

$P=(2\times1+16)+(2\times2+16)+\ldots+(2\times28+16)$

$P=37\times38-8\times9$

$P=1334$

3. $M=21+23+25+\ldots+61$

$n=31^2-10^2$

$M=861$

$E=46+48+50+\ldots+92$

$E=46\times47-22\times23$

$E=1650$

$P=9^2+10^2+\ldots+22^2$

$P=\frac{22\times23\times45}{6}-\frac{8\times9\times17}{6}$

$P=3591$

4. $1+2+3+\ldots+n=1830$

$n(n+1)=3660=60\times61$

$n=60$

$2+4+6+\ldots+m=306$

$m(m+1)=306=17\times18$ $\#n=17$

$m=2\times17=34$

$1+3+5+\ldots+n=11025$

$K^2=11025 \Rightarrow K=105$

$n=2\times105-1=209$

5. $S=1+2+3+\ldots+50$

$S=\frac{50\times51}{2}$

$S=1275$

$D=2+4+6+\ldots+100$

$D=50\times51$

$D=2550$

$E=1+3+5+\ldots+101$

$E=51^2$

$E=2601$

$G=1+4+9+\ldots+1600$

$G=\frac{40\times41\times81}{6}$

$G=22140$

$S+D+E+G=28366$

6. $\frac{(x)(x+1)}{2}=465 \Rightarrow x(x+1)=930 \Rightarrow x=30$

10. $S=1+8+27+\ldots+8000$

$S=1^3+2^3+3^3+\ldots+20^3$

$S=\left[\frac{20\times21}{2}\right]^2$

$S=44100$

11. $x=7^3+9^3+9^3+\ldots+30^3$

$x=\left(\frac{30\times31}{2}\right)^2-\left(\frac{6\times7}{2}\right)^2$

$x=216225-441$

$x=215784$

CERTEZAS

1. ? = 12B + 6A + 3N = 21
   ? = 6DB + 5DN + 3DA + 2 = 16
   ? = 6DB + 5DN + 3DA + 1 = 15
   ? = 12B + 10N + 2A = 24
   1D + 1 + 1 = 3

2. 13 bolos (1 a 13)
   1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
   ? = 6 pares + 2 impares = 8
   ? = 7 (no primos) + 1 = 8
   ? = 10 rojos + 1 = 11

3. A = 26N + 9R = 35
   B = 24P + 3 = 27
   C = 28 (impares) + 4 = 32
   D = 48 + 1 = 49
   E = 13T + 13D + 13C + 5E = 44
   G = 13E + 1 = 14

4. 8 pares de medias blancas
   5 pares de medias azules
   1B + 1A + 1 = 3

5. ? = 15P + 1 = 16

6. cuya suma de valores sea no menor de 30
   CF: 30, 31, 32, ..., 39
   ? = (F1 + F2 + ... + F7) + 1
   ? = 8