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MATHEMATICAL CONSTANTS

H. P. Robinson and Elinor Potter

March 1971

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LAWRENCE RADIATION LABORATORY
UNIVERSITY of CALIFORNIA BERKELEY

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UNIVERSITY OF CALIFORNIA

Lawrence Berkeley Laboratory
Berkeley, California

January 11, 1972

ERRATA

TO: All recipients of UCRL-20418
FROM: Technical Information Division
SUBJECT:UCRL-20418 "Mathematical Constants" by
H. P. Robinson and Elinor Potter, March 1971
UC-32 Mathematics and Computers TID-4500 (57th Ed.)

Please note the attached.

ERRATA FOR UCRL-20418

11 January 1972

Dr. John W. Wrench, Jr. has checked nearly 2000 entries in Tables I and II, and provided most of the corrections and extensions [†] in the following list. Nearly all of the remaining entries in these two tables have been checked by recalculation.

The authors will appreciate being informed of any other errors discovered in the report.

| Page | Entry | For | Read |
|------|--|--------------------------------------|----------------|
| 6 | 0.01582... | ...11200 | ...11201 |
| 7 | 0.01826... | ...98172 13312 | ...84029 62829 |
| 7 | 1.02545... | ...67020 | ...67019 |
| 7 | [†] 0.02825 17641 60067 93787 | C ₃ | |
| 8 | 0.03154... | ...580412 | ...602466 |
| 9 | 0.05233... | ...83269 | ...83272 |
| 10 | 2.06004... | ...23381 | ...23380 |
| 11 | 0.06790... | ...4755 | ...47543 |
| 11 | 0.07014... | ...81097 33963 | ...83267 93047 |
| 11 | 0.07179... | ...47729 07067 | ...49927 77820 |
| 14 | 3.10628... | ...02643 63832 | ...05389 87600 |
| 14 | 0.11625... | ...40558 | ...40583 |
| 15 | 3.12891... | ...51258 | ...51257 |
| 15 | 0.12933... | ...53178 25018 | ...52149 47424 |
| 16 | 0.14194... | ...28826 41030 | ...33195 70866 |
| 17 | 0.14541... | ...69471 74887 | ...68859 05697 |
| 18 | 0.16015... | ...96271 67625 | ...96647 78673 |
| 18 | 0.16040... | Insert * between 0.16040 and 0.16129 | |
| 18 | 2.16395... | ...28488 | ...84877 |

| Page | Entry | For | Read |
|------|--|--------------------------------------|--------------------------|
| 18 | 0.16510... | ...26312 65311 | ...23686 12039 |
| 19 | 0.17801... which occurs after 2.17998... should be placed between 0.17759... and 0.17827... | | |
| 19 | 1.17897... | Gibb's | Gibbs's |
| 20 | 0.19575... | ...77081 13613 | ...76989 17033 |
| 24 | 1871.25430... | ...47692 | ...47608 |
| 25 | 1.27653... | ...76749 38848 | ...66595 77700 |
| 26 | 5.27686... | ...76206 | ...76207 |
| 27 | 1.29128... | Add = $\int_0^1 x^{-x} dx$ | |
| 27 | 1.30170... | Insert * between 1.30170 and 0.30182 | |
| 28 | [†] 0.30749 48787 58327 09312 | C ₄ | |
| 29 | 3.31978... | ...47106 | ...47107 |
| 30 | 0.33498... | ...99965 06437 | ...99993 18106 |
| 30 | 0.35091... | ...96756 | ...96757 |
| 32 | 0.37931... | ...20697 | ...20690 |
| 33 | 2.38889... | Delete -1133278 at end of line | |
| 36 | 0.43405... | ...91268 48697 | ...95679 46348 |
| 36 | 0.43648... | Ref. 10 | Ref. 1 |
| 37 | [†] 2.44758 07362 33658 23109 | - $\zeta(2/3)$ | |
| 37 | 3.44935... | Add Ref. 15 | |
| 37 | 1385.45573... | ...14091 | ...14092 |
| 37 | 0.45685... | ...51856... | ...47856... |
| 38 | 1.46779... | Delete Ref. 31 | |
| 38 | 0.46784... | Add Ref. 31 | |
| 39 | 0.48383... | -J ₀ (2.5) | -10 J ₀ (2.5) |

| Page | Entry | For | Read |
|------|---|--|---|
| 40 | 0.49626... | ...18538 07940 | ...18537 86924 |
| 40 | 0.50408... | ...64222 74070 | ...64455 40926 |
| 41 | $\dagger 0.50702 \ 60629 \ 64086 \ 25915$ | $\eta(1/32)$ | |
| 41 | 0.51791... | ...77134 47378 | ...67713 44738 |
| 41 | $\dagger 1.52173 \ 15350 \ 75705 \ 80362$ | C | |
| 44 | $\dagger 0.55448 \ 73859 \ 14073 \ 12113$ | $\eta(1/4)$ | |
| 45 | $\dagger 0.57175 \ 28338 \ 25277 \ 66494$ | $\eta(1/3)$ | |
| 45 | 0.57672... | Bessel | Bessel |
| 46 | 0.60653... | Insert * between 0.60653 and 0.60714 | |
| 48 | 2.62466... | ...33989 | ...33990 |
| 48 | $\dagger 0.63516 \ 63546 \ 04271 \ 20721$ | c_3 | |
| 48 | $\dagger 0.63617 \ 77546 \ 64319 \ 07599$ | $\eta(2/3)$ | |
| 49 | 0.64194... | ...28826 41030 | ...33195 70866 |
| 49 | 1.66164... | $\sum_{p=2}^{47} p = \text{primes}$ | $\sum_{p=2}^{47} 1/p \quad p = \text{primes}$ |
| 51 | 0.68438... | $-J_o(5.5)$ | $-100 J_o(5.5)$ |
| | $-J_o(5.5) \text{ is } 0.00684 \ 38694 \ 17819 \ 19682$ | | |
| 51 | $\dagger 0.70416 \ 99604 \ 375$ | $\int_1^{\infty} x^{-x} dx$ | |
| 54 | $\dagger 0.76086 \ 57675 \ 37852 \ 90181$ | C/2 | |
| 57 | 2.82253 37452 39833 44217 | $\Sigma 1/p \quad p = \text{primes } 2 \text{ to } 420001$ | |
| 58 | 0.84273... | $\pi(1 - 0.25\pi)/8$ | $10\pi(1 - 0.25\pi)/8$ |
| 59 | 9.84966... | ...81740 | ...81739 |
| 59 | 1.85407... | ...91844 | ...91843 |
| 60 | 133.87338... | ...12296 | ...12297 |
| 63 | 2.92498... | ...35335 | ...35347 |
| 63 | 4071.93209... | ...5245 | ...52457 |

| Page | Entry | For | Read |
|------|---|---|------------------------------------|
| 63 | 3.93481 26191 84162 87774 (Insert between 4.93480... and 0.93541...) | root of $e^x = 13x$ (other is 0.08363...) | |
| 64 | 2.94129... | ...29584 11215 | ...42104 14908 |
| 65 | + 0.97336 02483 50782 71547 | - $\zeta(1/3)$ | |
| 68 | 0.00000... | 1/47 | 1/47 ⁷ |
| 68 | 0.00200... | Insert 1/2 ⁹ | |
| 68 | 1.01594... | ...63479 91446 | ...63482 81716 |
| 68 | 0.03575... | 1 | 1/2 ⁵ |
| 70 | 0.17476... | 1 | 1/2 ³ |
| 70 | 0.18340... | ...45914 | ...44986 |
| 74 | 11.47797... | | 11.47796 80139 87075 91151 |
| 74 | 0.57556... | Add = 1 - D(1/2), Ref. 35 | |
| 76 | 1.65834... | ...04833 | ...04933 |
| 80 | $S_n^{(m)}$ | permutation | permutations |
| 115 | 537 | 269-268 ² | 269 ² -268 ² |
| 145 | 987 | Fibonacci | Fibonacci(31) |
| 148 | $1/2((1+x)^{1/2} + (1+x)^{-1/2})$ | Last fraction is -715/8192 | |
| 157 | $2+x - F(1, 1+x)$ | Add Ref. 36 | |
| 159 | $1 + \ln\Gamma(x+1)$ | Add Ref. 8, 10 | |
| 163 | $e^{\arctan x}$ | -1163/72566 | -1163/72576 |
| 163 | $e^{\arctan x}$ | -.01602 67894 | -.01602 45811 |
| 180 | Ref. 32 | 2.35973... | 2.35988... |

MATHEMATICAL CONSTANTS^{*}

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ABSTRACT

This collection of mathematical data consists of two tables of decimal constants arranged according to size rather than function, a third table of integers from 1 to 1000, giving some of their properties, and a fourth table listing some infinite series arranged according to increasing size of the coefficients of the terms. The decimal values of Tables I and II are given to 20 D.

^{*}Work performed under the auspices of the U. S. Atomic Energy Commission.

MATHEMATICAL CONSTANTS

This unconventional table of mathematical constants is an accumulation of numbers collected in a card file over a period of years. The arrangement is not by function or class but in order of size. Tables I and II list decimal numbers and Table III the integers from 1 to 1000. Table IV is not really a list of constants, but mathematical functions expressible in power series, and arranged numerically according to the coefficients of the terms of the series expansion.

A brief description of the tables follows.

Table I

The numbers in this table are arranged in the order of the decimal part only. The values listed have not been selected according to any criterion, other than being true mathematical constants. Many are well known, others are obscure, and some have little reason to exist. The sources in many cases have been lost, but most of the numbers can be found in references 1-7.

The table can be used in at least two ways: 1) For improvement of the accuracy of a constant on hand, and 2) for possible identification of a number obtained by empirical or other means. It is, of course, necessary that the number be in the table, and for this reason a table a thousand times as large would be much more useful. For the most part the entries are given to 20D (decimals), and about half of them have been recomputed. Nearly all have been checked to 10 or 12D. If a number to be identified is not found in the tables, derived values can be sought, such as the reciprocal, the complement, logarithm, exponential, square, square root, etc.

Unfortunately it is inevitable that errors are present, especially in the last digit or two. It is hoped that the number of serious errors is

small, but the experience with errors in the original file indicates there will be some present.

The first entry in Table I was contributed by Prof. J. R. Woodyard. The last entry is one of a class of numbers studied by Ramanujan (6) and others.

Table II

After Table I was typed, it was thought worthwhile to include the roots of some common quadratic equations, and rather than retype the whole table, Table II was made listing these roots, together with a few other constants. The presence of an asterisk between two entries in Table I indicates that one or more numbers for this position will be found in Table II.

Table III

This table lists the integers from 1 to 1000, together with some of their properties. As in Table I, much of the data merely accumulated. It is intended, however, that the representation in terms of sums of two and three squares, sums of two and three cubes, and differences of squares and of cubes, be complete. Following the listing of a number, the corresponding binary form is given, and immediately below this is the ternary representation. The binary number consists of groups of three digits to facilitate conversion to the octal form.

A list of definitions of terms used precedes the table.

Table IV

In keeping with the inverted philosophy of this report, a short compilation of mathematical functions described by infinite power series is

presented. The arrangement is such that the coefficients of the terms of the power series must be known, and the corresponding function in closed form can then be found, if listed. The series is "normalized" in some sense, so that the first term is 1, and the entries are arranged in order of increasing magnitude of the coefficient for x . Where two or more series have the same first coefficient, the placement is determined by the coefficient of x^2 , etc. A decimal value of the coefficient as well as the exact value is given to facilitate look-up.

As an example, a listing for $\frac{1}{x} \ln(1 + x)$ is

| | |
|------|----------------|
| 1 | 1 |
| -1/2 | -0.50000 00000 |
| 1/3 | 0.33333 33333 |
| -1/4 | -0.25000 00000 |
| . | . |
| . | . |
| . | . |

The power series is then

$$1 - \frac{1}{2} x + \frac{1}{3} x^2 - \frac{1}{4} x^3 + \dots$$

The usual expression for $\ln(1 + x)$ has been divided by x to make the first term 1.

ACKNOWLEDGEMENT

The authors express their appreciation and amazement to Linda Ambrose and Kathy McCracken for typing the more than 100,000 digits with remarkably few errors.

| | Ref. |
|--|------|
| * 8 .00000 00729 00000 66339 | |
| 0 .00000 36616 84782 14444 | |
| 0 .00000 48481 36811 07637 | |
| 0 .00000 48481 36811 09536 | |
| 0 .00001 15870 76344 31335 | |
| 0 .00001 16227 40795 01095 | |
| 0 .00007 33468 22546 94340 | |
| 1 .00015 51790 25296 11930 | |
| 0 .00019 35178 73414 00760 | |
| 0 .00022 06747 08176 21317 | |
| 0 .00024 60562 78978 82383 | |
| 1 .00024 60865 53308 04830 | |
| 0 .00026 08186 06750 04201 | |
| 0 .00026 44802 91532 18645 | |
| 0 .00029 08882 04563 42460 | |
| 0 .00029 08882 08665 72160 | |
| 1 .00035 14623 96784 52173 | |
| 0 .00037 00961 82493 03593 | |
| 0 .00044 55913 70551 00264 | |
| 1 .00044 56906 61132 88526 | |
| 0 .00044 56959 58934 00200 | |
| 1 .00047 15486 52376 55476 | |
| 0 .00099 36035 74436 98022 | |
| 0 .00099 40808 65669 06069 | |
| 1 .00099 45751 27818 08534 | |
| 0 .00104 01614 73295 85230 | |
| * 0 .00144 60306 34519 12236 | |
| 1 .00144 70766 40942 12191 | |
| 0 .00186 74427 31707 98881 | |
| * 1 .00200 83928 26082 21442 | |
| 1 .00237 93196 64510 04015 | |
| 0 .00247 87521 76666 35842 | |
| 3 .00282 27186 51298 23248 | |
| 0 .00326 77636 43053 38547 | |
| 0 .00377 93524 09848 90648 | |
| 20 .00380 69556 71514 12225 | |
| 0 .00384 95720 26516 23083 | |
| 0 .00385 80694 15480 66210 | |
| 0 .00406 14053 66517 83056 | |
| 0 .00406 90663 07412 95524 | |
| 987654321/123456789 | |
| $1/11^5 - 1/13^5 + 1/23^5 - 1/37^5 + 1/47^5 + \dots$ | 29 |
| $\sin 1''$ | |
| $\text{arc } 1'' = \pi/648000$ | |
| $1/5^7 - 1/7^7 + 1/17^7 - 1/19^7 + 1/29^7 - \dots$ | 30 |
| $1/5^7 - 1/7^7 + 1/11^7 - 1/13^7 + 1/17^7 - \dots$ | 28 |
| $\ln((1-1/2^6)(1-1/3^6)\zeta(6))$ | 8 |
| $\lambda(8) = 17\pi^8/161280$ | 8 |
| $-\log_{10} \beta(7)$ | 8 |
| $c_6 = (e^6 - 6e^4 + 3e^2 - 98)/32$ | 21 |
| $\ln \zeta(12) = \ln(691\pi^{12}/638512875)$ | 8 |
| $\zeta(12) = 691\pi^{12}/638512875$ | 8 |
| $1/5^5 - 1/7^5 + 1/11^5 - 1/13^5 + 1/17^5 - \dots$ | 30 |
| $1/5^5 - 1/7^5 + 1/11^5 - 1/13^5 + 1/17^5 - \dots$ | 28 |
| $\sin 1'$ | |
| $\text{arc } 1' = \pi/10800$ | |
| $20\sqrt{2}/9\pi$ | |
| $1/11^3 - 1/13^3 + 1/23^3 - 1/37^3 + 1/47^3 + \dots$ | 29 |
| $-\ln \beta(7) = \ln(184320/61\pi^7)$ | 8 |
| $1/\beta(7)$ | 8 |
| $1/3^7 - 1/5^7 + 1/7^7 + 1/11^7 - 1/13^7 - \dots$ | 25 |
| $\lambda(7)$ | 8 |
| $1/2^{10} + 1/3^{10} + 1/5^{10} + \dots \text{ all primes}$ | 7 |
| $\ln \zeta(10) = \ln(\pi^{10}/93555)$ | 8 |
| $\zeta(10) = \pi^{10}/93555$ | 8 |
| π^{-6} | |
| $\ln \lambda(6) = \ln(\pi^6/960)$ | 8 |
| $\lambda(6) = \pi^6/960$ | 8 |
| $e^{-2\pi}$ | |
| $\zeta(9)$ | 8 |
| $(\pi \ln 2)/4 + \beta(2)/2 = - \int_0^{\pi/4} \ln \sin x \, dx$ | 8 |
| e^{-6} | |
| $\sum_{n=1}^{\infty} n/a_n$ | 33 |
| π^{-5} | |
| $E_1(4)$ | 9 |
| $2e^{9/2}/9$ | |
| $-\ln \beta(5) = \ln(1536/5\pi^5)$ | 8 |
| $1/3^5 - 1/5^5 + 1/7^5 + 1/11^5 - 1/13^5 - \dots$ | 25 |
| $1/2^8 + 1/3^8 + 1/5^8 + \dots \text{ all primes}$ | 7 |
| $\ln \zeta(8) = \ln(\pi^8/9450)$ | 8 |

(continued)

Table I (continued)

| | | Ref. |
|-----------|-------------------|--|
| 1 .00407 | 73561 97944 33938 | $\zeta(8) = \pi^8/9450$ |
| 1 .00452 | 37627 95139 61613 | $\lambda(5)$ |
| 0 .00468 | 28234 82345 83270 | $-J_1(7)$ Bessel Function |
| 1 .00496 | 98233 13689 17109 | $\coth 3$ |
| 0 .00515 | 46593 86027 54554 | $1/5^3 - 1/7^3 + 1/11^3 - 1/19^3 + 1/29^3 - \dots$ |
| 0 .00524 | 07046 77704 77115 | $C_4 = (e^{4\pi} - 25)/8$ |
| 0 .00552 | 47555 68520 58147 | $i/5^3 - 1/7^3 + 1/11^3 - 1/13^3 + 1/17^3 - \dots$ |
| 0 .00586 | 80824 42208 61464 | $-Y_2(10)$ Bessel Function |
| 2 .00590 | 88703 11503 41989 | $\sum_{p=2}^{\infty} 1/p$ p = primes |
| 31 .00627 | 66802 99820 17548 | π^3 |
| 2 .00657 | 27096 19495 45000 | $\sqrt{18} - \sqrt{5}$ |
| 0 .00673 | 79469 99085 46710 | e^{-5} |
| 0 .00676 | 07494 49488 55783 | $5 - \ln(e^5 - 1)$ |
| 0 .00782 | 41227 40795 01095 | $1/2^7 + 1/5^7 - 1/7^7 + 1/11^7 - 1/13^7 + \dots$ |
| 1 .00803 | 43398 61824 80576 | $\sqrt{20} - \sqrt{12}$ |
| * | | $\zeta(7)$ |
| 1 .00834 | 92773 81922 82684 | $1/(120\Gamma(3/2))$ |
| 0 .00940 | 31597 25795 93812 | $\pi \ln 2 + 2\theta(2)$ |
| 4 .00951 | 72786 58040 16061 | $\sqrt{14} - \sqrt{3}$ |
| 2 .00960 | 65792 05064 09206 | root of $x e^x = 15$ |
| 2 .00994 | 35593 50565 80111 | $\log_{10} \sqrt{\pi/3}$ |
| 0 .01001 | 43089 87235 70853 | π^{-4} |
| 0 .01026 | 59822 54684 33519 | $e^{-\pi} \sqrt{2}$ |
| 0 .01176 | 19805 31389 12169 | $\arccot(5/8)$ |
| 1 .01219 | 70114 51334 18326 | $E_1(3)$ |
| 0 .01304 | 83810 94197 03741 | $\sqrt{8\pi}$ |
| 5 .01325 | 65492 62001 00483 | $\coth 2.5$ |
| 1 .01356 | 73098 12608 46219 | $\sqrt{37}/6$ |
| 1 .01379 | 37550 49703 28150 | $\sqrt{12} - \sqrt{6}$ |
| * | | $\lambda(4) = \pi^4/96$ |
| 1 .01461 | 18723 54576 48886 | $\sqrt{65}/4$ |
| 1 .01467 | 80316 04192 05455 | $\psi(8) = 363/140 - \gamma$ |
| 2 .01556 | 44370 74637 41309 | $\pi/200$ |
| 2 .01564 | 14779 55609 99654 | $\ln((1-1/3)^6) \zeta(6)$ |
| 0 .01570 | 79632 67948 96619 | $-\text{bei}(8)$ Bessel Function |
| 0 .01582 | 17037 90686 11200 | $-Y_0(4)$ Bessel Function |
| * | | $1/2^6 + 1/3^6 + 1/5^6 + \dots$ all primes |
| 35 .01672 | 51648 81512 42593 | $\ln \zeta(6) = \ln(\pi^6/945)$ |
| 0 .01694 | 07393 25064 99190 | $\zeta(6) = \pi^6/945$ |
| 0 .01707 | 00868 50636 51295 | $\sin 1^\circ$ |
| 0 .01719 | 43876 02658 29097 | |
| 1 .01734 | 30619 84449 13971 | |
| 0 .01745 | 24064 37283 51282 | |

(continued)

-7-
Table I (continued)

| | | Ref. |
|------------------------------|------------------------------------|------|
| 0 .01745 32925 19943 29577 | $\pi/180$ | |
| 10 .01787 49274 09901 89897 | $\sinh 3$ | |
| 0 .01826 31883 98172 13312 | $3 - 5e E_1(1)$ | 9 |
| 0 .01831 56388 88734 18029 | e^{-4} | |
| 3 .01846 17127 12472 20886 | $\sqrt{82}/3$ | |
| 0 .01848 54468 25886 56053 | $4 - \ln(e^4 - 1)$ | |
| * 1 .01980 39027 18556 96601 | $\sqrt{26}/5$ | |
| 0 .02040 81632 65306 12245 | $1/49$ | |
| 1 .02100 83037 46349 36961 | $3e^4/64 \sqrt{2\pi}$ | |
| 0 .02190 38591 89707 73151 | $d^2 F(1,x)/dx^2$ at $x = 4$ | 36 |
| 0 .02232 47396 09784 02451 | $J_2(8,5)$ Bessel Function | |
| 2 .02264 62122 16401 29162 | $\sqrt{20} - \sqrt{6}$ | |
| 1 .02332 67079 46488 48848 | $\sqrt{\pi/3}$ | |
| 0 .02340 36331 49156 67666 | $22.5/\pi^6$ | |
| 0 .02450 82273 22900 39104 | $7.5/\pi^5$ | |
| 7 .02481 47310 40726 39316 | $\pi\sqrt{5}$ | |
| 2 .02513 46478 99099 92594 | $e - \ln 2$ | |
| 10 .02529 07169 52038 83000 | $f(1/2)$ | 44 |
| 1 .02545 31863 46250 67020 | $e^{e-2}/2$ | |
| 0 .02594 97439 67209 26488 | $-Y_0(7)$ Bessel Function | |
| 0 .02607 36273 13983 38269 | $315/4\pi^7$ | |
| 1 .02721 61538 31060 60514 | $e^{-1} \sum_{n=0}^{\infty} 1/a_n$ | 33 |
| 1 .02740 23338 28162 74171 | $\sqrt{38}/6$ | |
| 2 .02758 75100 99406 56300 | $\sqrt{37}/3$ | |
| 1 .02808 37917 80141 52280 | $5\pi^2/48$ | |
| 0 .02825 17642 | c_3 | 21 |
| 2 .02875 78381 10434 22358 | root of $\tan x = -x$ | |
| 0 .02908 88208 66572 15962 | $\pi/108$ | |
| 0 .02919 95223 01288 72621 | $-\cos(8/5)$ | |
| 1 .02986 65293 22258 82760 | root of $2 \cos x = x$ | |
| 0 .02990 11002 72339 65471 | $\pi^2/4 - 39/16$ | |
| 0 .03015 36896 07045 80797 | $\sin^2 10^\circ$ | |
| 1 .03037 68265 24312 46379 | $\operatorname{arccot}(0.6)$ | |
| 0 .03060 40234 58682 64131 | $J_2(0.5)$ Bessel Function | |
| 1 .03077 64064 04415 13746 | $\sqrt{17}/4$ | |
| 0 .03079 79467 64053 00557 | $3/\pi^4$ | |
| 2 .03100 96011 58990 09011 | $\sqrt{66}/4$ | |
| 0 .03103 60859 75821 50452 | $\ln(3^6 \sqrt{3}/4\pi^5)$ | |
| 4 .03112 88741 49274 82618 | $\sqrt{65}/2$ | |
| 1 .03141 30998 79573 17616 | $\cosh 0.25$ | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|---|------|
| 0 .03151 44802 91532 18645 | $1/2^5 + 1/5^5 - 1/7^5 + 1/11^5 - 1/13^5 + \dots$ | 24 |
| 0 .03154 62452 51525 80412 | $\ln(32/\pi^3)$ | |
| 1 .03172 35934 95771 08423 | $F(1.25, 0.75)$ | 36 |
| 0 .03225 15344 33199 48918 | π^{-3} | |
| 0 .03225 24738 33502 52743 | $1/3^3 - 1/5^3 + 1/7^3 - 1/11^3 + 1/13^3 - \dots$ | 25 |
| 0 .03225 80645 16129 03226 | $1/31$ | |
| 0 .03226 36616 68246 96184 | $\arcsin(1/31)$ | |
| 0 .03319 79733 70850 50489 | $315/\pi^8$ | |
| 0 .03333 95092 61302 08699 | $\arcsin(1/30)$ | |
| 4 .03375 50445 95465 78827 | root of $e^x = 14x$ (other is 0.07715 ...) | |
| 0 .03391 82745 31521 15548 | $5/(e^5 - 1)$ | |
| 0 .03392 21571 52552 19907 | $7 \zeta(3)/8\pi^3$ | 8 |
| 0 .03448 27586 20689 65517 | $1/29$ | |
| 0 .03448 95959 61678 82768 | $\arcsin(1/29)$ | |
| 2 .03509 03305 72526 02103 | $\sqrt{\pi+1}$ | |
| 0 .03520 45477 24194 30287 | $\log_{10}(e/\sqrt{2\pi})$ | |
| 1 .03527 61804 10083 04940 | $\sqrt{6} - \sqrt{2} = \sec 15^\circ$ | |
| 0 .03539 81633 97448 30962 | $(\pi-3)/4$ | |
| 0 .03571 42857 14285 71429 | $1/28$ | |
| 0 .03572 18823 98078 79542 | $\arcsin(1/28)$ | |
| 0 .03574 87979 72016 50932 | $\sin 10^5$ | |
| * 0 .03577 16629 52898 77341 | $-\tan 10^5$ | |
| 0 .03648 99739 78576 52056 | $\psi(3/2) = 2 - \gamma - 2 \ln 2$ | 10 |
| 3 .03658 89718 75662 51942 | $28^{1/3}$ | |
| 3 .03681 11930 48099 62732 | $\sqrt{83}/3$ | |
| 1 .03692 77551 43369 92633 | $\zeta(5)$ | 8 |
| 0 .03703 70370 37037 03704 | $1/27$ | |
| 0 .03704 55098 12092 00910 | $\arcsin(1/27)$ | |
| 1 .03731 47207 27548 09588 | $(e^{1/4} + 1)/(e^{1/4} - 1) = \coth 2$ | |
| 1 .03735 82538 87398 97373 | $1 + 1/3^3 + 1/5^5 + 1/7^7 + 1/9^9 + \dots$ | |
| 0 .03846 15384 61538 46154 | $1/26$ | |
| 0 .03847 10274 07328 32236 | $\arcsin(1/26)$ | |
| 137 .03859 00552 68928 04595 | e^u | 43 |
| 0 .03909 39721 63597 15067 | $1 - 2(\ln 2)^2$ | |
| 1 .03923 04845 41326 37612 | $\sqrt{27}/5$ | |
| 0 .04001 06743 53988 92622 | $\arcsin(1/25)$ | |
| 0 .04013 58232 65404 71917 | $d^2 F(1,x)/dx^2$ at $x = 3$ | 36 |
| 1 .04065 18522 56408 31541 | $e/(e-1) - \ln(e-1)$ | |
| 0 .04067 90239 81009 71331 | $5e^5/(e^5 - 1) - \ln(e^5 - 1)$ | |
| 1 .04083 29997 33066 36764 | $\sqrt{39}/6$ | |

(continued)

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Table I (continued)

| | | Ref. |
|------------------------------|--|-------|
| 3 .04138 12651 49109 84450 | $\sqrt{37}/2$ | |
| 0 .04166 66666 66666 66667 | $1/24$ | |
| 0 .04167 87324 22577 86519 | $\arcsin(1/24)$ | |
| 0 .04193 92518 42934 50355 | $J_0(8.5)$ Bessel Function | |
| 1 .04227 41531 85273 70312 | $\sqrt{19} - \sqrt{11}$ | |
| 0 .04238 71012 40411 60909 | $0.25 \ln 2 - \pi/24$ | |
| 0 .04321 39182 63772 24977 | $e^{-\pi}$ | |
| 0 .04321 39182 64297 79829 | $(2^{1/4}-1)\Gamma(1/4)/(2^{11/4}\pi^{3/4})$ | |
| 0 .04347 27461 68861 43667 | $J_1(10)$ Bessel Function | |
| 0 .04347 82608 69565 21739 | $1/23$ | |
| 0 .04349 19707 90115 81902 | $\arcsin(1/23)$ | |
| 0 .04452 52672 66922 90615 | π^{-e} | |
| 1 .04455 62214 61226 78758 | $\sqrt{15} - \sqrt{8}$ | |
| 0 .04537 14377 29180 28346 | $J_2(3.5)$ Bessel Function | |
| 0 .04545 45454 54545 45455 | $1/22$ | |
| * 0 .04547 02124 16997 15229 | $\arcsin(1/22)$ | |
| 2 .04633 81929 68112 49249 | $\sqrt{67}/4$ | |
| 0 .04656 51162 77752 21553 | $J_2(5)$ Bessel Function | |
| 1 .04719 75511 96597 74615 | $\pi/3 = \arccos(0.5)$ | |
| 0 .04755 25940 63435 71990 | $2835/2\pi^9$ | |
| 0 .04761 90476 19047 61905 | $1/21$ | |
| 0 .04763 70626 24403 13071 | $\arcsin(1/21)$ | |
| 0 .04767 23086 00129 37473 | root of $20x e^x = 1$ | |
| * 0 .04837 73016 49799 23378 | $3/2\pi^3$ | |
| 0 .04838 37764 68197 99633 | $-J_0(2.5)$ Bessel Function | |
| 0 .04890 05107 08061 11957 | $E_1(2)$ | 9 |
| 1 .04951 82985 67532 98405 | $((\sqrt{5}-1)/2)[1, 1, 2, 3, 5, \dots]$ | 15,31 |
| 0 .04978 70683 67863 94298 | e^{-3} | |
| 2 .04988 80527 64659 53825 | $\sqrt{12} - \sqrt{2}$ | |
| 1 .04990 88949 64039 95999 | root of $x e^x = 3$ | |
| 0 .05002 08568 05770 01466 | $\arcsin(1/20)$ | |
| 6 .05020 44810 39787 32145 | $\sinh 2.5$ | |
| 0 .05025 38471 87598 52803 | $e^{-100} \int_0^{10} e^{t^2} dt$ | 35 |
| 2 .05090 63726 92501 34038 | e^{e-2} | |
| 0 .05106 91809 42701 58654 | $3 - \ln(e^3 - 1)$ | |
| 1 .05119 11502 99520 46625 | $F(1,1,1)$ | 36 |
| 1 .05179 97902 64644 99972 | $\lambda(3)$ | 8 |
| 0 .05233 59562 42943 83269 | $\sin 3^\circ$ | |
| 0 .05263 15789 47368 42105 | $1/19$ | 40 |
| 0 .05265 59082 61569 79146 | $\arcsin(1/19)$ | |

(continued)

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Table I (continued)

| | | Ref. |
|---------------------------------|---|------|
| 1 .05409 25533 89459 77733 | $\sqrt{10}/3$ | |
| 2 .05480 46676 56325 48342 | $\sqrt{38}/3$ | |
| 3 .05505 04633 03893 33773 | $\sqrt{84}/3$ | |
| 0 .05515 89000 38162 89835 | $(\ln 2)/4\pi$ | |
| 1 .05517 30266 91477 16514 * | $(\sum_{n=0}^{\infty} 1/a_n)^2/e^2$ | 33 |
| 0 .05555 55555 55555 55556 | $1/18$ | |
| 0 .05558 41732 80917 47610 | $\arcsin(1/18)$ | |
| 0 .05567 11672 83599 39142 | $Y_0^{(10)}$ Bessel Function | |
| 0 .05590 50467 24350 46070 | $e^{-81} \int_0^9 e^{t^2} dt$ | 35 |
| 0 .05685 28194 40054 69058 | $0.75 - \ln 2$ | |
| 1 .05725 08753 75728 51457 | $\text{Shi}(1)$ | 9 |
| 5 .05760 72413 02006 70528 | $(1-2(\ln 2)^2)^{-1/2} = f(1)$ | 44 |
| 3 .05792 23926 26484 34402 | $\sqrt{20} - \sqrt{2}$ | |
| 2 .05817 10272 71492 25032 | $\tau^{3/2} \quad \tau = (1 + \sqrt{5})/2$ | |
| 1 .05830 05244 25836 23620 | $\sqrt{28}/5$ | |
| 0 .05882 35294 11764 70588 | $1/17$ | |
| 0 .05885 75059 47081 23021 | $\arcsin(1/17)$ | |
| 0 .05936 57483 65390 82147 | $\pi/8 - 1/3$ | |
| 2 .06004 27171 06145 23381 | $\ln 2/(\ln 7 - \ln 5)$ | |
| 0 .06052 66094 68272 12656 | $-Y_2^{(7)}$ Bessel Function | |
| 1 .06066 01717 79821 28660 | $\sqrt{18}/4$ | |
| 2 .06155 28128 08830 27491 | $\sqrt{17}/2$ | |
| 4 .06201 92023 17980 18023 | $\sqrt{66}/2$ | |
| 10 .06230 58987 49053 63384 | $4.5\sqrt{5}$ | |
| 0 .06254 07617 96491 39080 | $\arcsin(1/16)$ | |
| 0 .06262 00213 31516 10417 | root of $15x e^x = 1$ | |
| 1 .06269 35403 83213 93057 | $\pi^2/12 + (\ln 2)^2/2$ | |
| 0 .06300 01987 07553 38792 | $e^{-64} \int_0^8 e^{t^2} dt$ | 35 |
| 0 .06451 61290 32258 06452 | $2/31$ | |
| 1 .06473 41710 43503 37039 | $1 + 1/3^2 - 1/5^2 - 1/7^2 + 1/9^2 + \dots$ | |
| 1 .06543 58165 10739 31226 * | $\arcsin(7/8)$ | |
| 0 .06598 80358 45312 53708 | e^{-e} | |
| 0 .06604 33280 23549 13614 | $-J_1^{(4)}$ Bessel Function | |
| 2 .06636 56770 61246 46923 | $\sqrt{\pi e/2}$ | |
| 3 .06642 13450 69269 41241 | root of $e^x = 7x$ (other is 0.16919 ...) | |
| 1 .06659 28333 20625 73520 | root of $4x^3 + 3x^2 - 4x - 4 = 0$ | |
| 0 .06666 66666 66666 66667 | $1/15$ | |
| 0 .06671 61484 10225 25955 | $\arcsin(1/15)$ | |
| 1 .06718 73729 05474 78108 | $\sqrt{41}/6$ | |
| 10 .06766 19957 77765 84195 | $\cosh 3$ | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|-------|
| 0 .06790 47747 38901 4755 | $4072 - e^{\pi\sqrt{7}}$ | |
| * | $\Gamma(\pi-1)$ | |
| 1 .06838 14176 82192 74971 | | |
| 0 .06842 18119 62487 50966 | $(1/6 + \ln 2)/4\pi$ | |
| 0 .06896 55172 41379 31034 | $2/29$ | |
| * | | |
| 0 .07014 84232 81097 33963 | $1/5 - 1/7 + 1/17 - 1/19 + 1/29 - \dots$ | 30 |
| * | | |
| 0 .07073 72016 67702 91009 | $\cos(3/2)$ | |
| 3 .07074 10176 72505 97006 | $2(1 + 1/3 + 1/8 + 1/21 + \dots)$ | 31 |
| 0 .07142 85714 28571 42857 | $1/14$ | |
| 0 .07148 94498 85520 53454 | $\arcsin(1/14)$ | |
| 0 .07160 74067 44997 82619 | root of $13x e^x = 1$ | |
| 0 .07161 61978 80353 23702 | root of $e^x = 15x$ (other is 4.12515 ...) | |
| 0 .07179 64152 47729 07067 | $1/11 - 1/13 + 1/23 - 1/37 + 1/47 + \dots$ | 29 |
| 0 .07218 09746 58236 29203 | $e^{-49} \int_0^7 e^{t^2} dt$ | 35 |
| 3 .07231 68256 85847 29331 | $29^{1/3}$ | |
| 3 .07318 14857 64295 77000 | $\sqrt{85}/3$ | |
| 0 .07345 97924 69070 78119 | $\pi^2(2 - \sqrt{3})/36$ | |
| 2 .07434 07586 04670 80468 | root of $x^3 + x - 11 = 0$ | |
| 0 .07462 94414 55096 19176 | $4/(e^4 - 1)$ | |
| * | | |
| 0 .07568 23040 20381 11983 | $14175/2\pi^{10}$ | |
| 0 .07581 63324 64079 17795 | $1/(8\sqrt{e})$ | |
| 5 .07657 72741 92692 51484 | [5, 13, 17, ...] | 15,26 |
| 2 .07665 59657 29518 71315 | $\sqrt{69}/4$ | |
| * | | |
| 0 .07692 30769 23076 92308 | $1/13$ | |
| 0 .07699 31397 64246 84494 | $1/2^4 + 1/3^4 + 1/5^4 + \dots$ all primes | 7 |
| 0 .07699 91406 56823 57963 | $\arcsin(1/13)$ | |
| 1 .07703 29614 26900 80625 | $\sqrt{29}/5$ | |
| 0 .07715 80570 07321 58419 | root of $e^x = 14x$ (other is 4.03375 ...) | |
| 0 .07753 63592 05833 59788 | $2 \zeta(3)/\pi^3$ | 8 |
| 0 .07786 29911 04210 88312 | $1 - \sqrt{2\pi/e}$ | |
| 0 .07910 98730 67335 62977 | $\ln(\pi^4/90) = \ln \zeta(4)$ | 8 |
| 137 .07914 48035 57324 90797 | $e^7/8$ | |
| 2 .07944 15416 79835 92825 | $\ln 8$ | |
| 2 .08008 38230 51904 11453 | $9^{1/3}$ | |
| * | | |
| 1 .08012 34497 34643 37183 | $\sqrt{42}/6$ | |
| 1 .08036 30269 50905 81441 | $\sqrt{18} - \sqrt{10}$ | |
| 1 .08055 68128 55610 15271 | $\sqrt{11} - \sqrt{5}$ | |
| * | | |
| 0 .08099 56485 11016 84211 | $2 - 8\sqrt{\pi}/e^2$ | |
| * | | |
| 2 .08166 59994 66132 73528 | $\sqrt{39}/3$ | |
| 3 .08220 70014 84488 22513 | $\sqrt{38}/2$ | |
| 1 .08232 32337 11138 19152 | $\zeta(4) = \pi^4/90$ | 8 |

(continued)

Table I (continued)

| | | Ref. |
|-----------------------------|---|------|
| 0 .08263 46164 | $1/5 - 1/7 + 1/11 - 1/13 + 1/17 - 1/19 \dots$ twin primes | |
| 1 .08268 22658 92901 53515 | $8/e^2$ | |
| 6 .08276 25302 98219 68900 | $\sqrt{37}$ | |
| 4 .08298 81650 73596 56826 | $\coth 0.25$ | |
| 0 .08333 33333 33333 33333 | $1/12$ | |
| 0 .08343 00866 10615 00487 | $\arcsin(1/12)$ | |
| 0 .08363 30677 62716 16142 | root of $e^x = 13x$ (other is 3.93481 ...) | |
| 0 .08440 11210 20485 55996 | $-\ln \Gamma(7/4)$ | |
| 1 .08443 75514 19227 54661 | $e/\sqrt{2\pi}$ | |
| 0 .08454 26889 74543 85224 | $e^{-36} \int_0^6 e^{t^2} dt$ | 35 |
| 0 .08490 23721 18800 88669 | $a^2 F(1,x)/dx^2$ at $x = 2$ | 36 |
| 1 .08507 02454 91450 82834 | root of $x^9 - x - 1 = 0$ | |
| 20 .08553 69231 87667 74093 | e^3 | |
| 1 .08586 08797 86472 16963 | $-\psi(3/4) = \gamma + 3 \ln 2 - \pi/2$ | 10 |
| 3 .08616 12696 30487 55696 | $e + 1/e$ | |
| 2 .08674 53398 82666 38358 | root of $x^3 - x - 7 = 0$ | |
| 0 .08695 65217 39130 43478 | $2/23$ | |
| 10 .08696 95386 97535 86849 | $F(-2,3)$ | 36 |
| 2 .08706 52286 34532 95984 | $e^{2/e}$ | |
| * | | |
| 1 .08764 73242 38098 31168 | $a^2((1+x)F(1,x))/dx^2$ at $x = -1$ | 36 |
| 0 .08777 64759 55337 26606 | $-\ln \beta(2)$ | 8 |
| 1 .08806 52521 31017 30810 | $1/\Gamma(7/4)$ | |
| * | | |
| 0 .08825 69642 15676 95798 | $J_0(1)$ Bessel Function | |
| * | | |
| 1 .08972 47358 85168 38806 | $\sqrt{19}/4$ | |
| 11 .09016 99437 49474 24102 | $\tau^5 = 11/2 + 5\sqrt{5}/2$ | |
| 0 .09033 36111 82876 13434 | $-J_0(9)$ Bessel Function | |
| 0 .09058 60737 06079 54970 | $\pi/6 - \sqrt{3}/4$ | |
| 0 .09090 90909 09090 90909 | $1/11$ | |
| 0 .09103 47780 37415 08548 | $\arcsin(1/11)$ | |
| 3 .09120 61651 65234 58417 | $\sqrt{86}/3$ | |
| 0 .09127 65271 60862 26430 | root of $10x e^x = 1$ | |
| 0 .09129 97831 38239 22852 | root of $e^x = 12x$ (other is 3.82698 ...) | |
| 2 .09165 00663 35188 86995 | $\sqrt{70}/4$ | |
| * | | |
| 0 .09223 51943 62580 96550 | $\ln((1-1/2)^2)(1-1/3)^2 \zeta(2)) = \ln(\pi^2/9)$ | 8 |
| 4 .09267 63859 36224 98498 | $\sqrt{67}/2$ | |
| 1 .09290 64207 17000 10872 | $\sqrt{43}/6$ | |
| 0 .09311 48882 80982 75228 | $4e^{4i}/(e^{4i}-1) - \ln(e^{4i}-1)$ | |
| 20 .09321 18256 97226 39044 | $\text{Shi}(5)$ | 9 |
| 0 .09403 15972 57959 38116 | $1/12\Gamma(3/2)$ | |
| 9 .09450 88529 84436 96726 | $1 + 1/2 + 1/3 + \dots 1/5000$ | |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|---|
| 2 .09455 14815 42326 59148 | root of $x^3 - 2x - 5 = 0$ |
| 0 .09523 80952 38095 23810 | $2/21$ |
| 1 .09544 51150 10332 22691 | $\sqrt{30}/5$ |
| 3 .09564 52652 46946 75228 | $5e^{8/5}/8$ |
| 0 .09566 02830 64045 37638 | root of $19x e^x = 2$ |
| 1 .09590 60757 09350 79508 | $\sqrt{14} - \sqrt{7}$ |
| 3 .09614 73055 87150 96170 | $96/\pi^3$ |
| * 1 .09637 63171 77312 80408 | $\sqrt{8} - \sqrt{3}$ |
| 1 .09662 27112 32150 95765 | $\pi^2/9$ |
| 0 .09677 41935 48387 09677 | $3/31$ |
| 1 .09698 15577 98559 81791 | root of $x^8 - x - 1 = 0$ |
| * 0 .09827 18364 21813 16146 | $-\ln \Gamma(5/4)$ |
| 1 .09861 22886 68109 69140 | $\ln 3$ |
| 5 .09901 95135 92784 83003 | $\sqrt{26}$ |
| 2 .09903 65971 35065 96810 | $(\sqrt{5}-1)[1, 1, 2, 3, 5, 8, \dots]$ |
| 0 .09950 53426 87387 83482 | root of $\cos x = 10x$ |
| 0 .09966 86524 91162 02738 | $\arctan 0.1$ |
| 0 .09983 34166 46828 15231 | $\sin 0.1$ |
| 7 .10000 05832 00047 82240 | $87654321/12345678$ |
| 0 .10009 94575 12781 80853 | $\zeta(10)/10 = \pi^{10}/935550$ |
| 0 .10016 74211 61559 79635 | $\arcsin 0.1$ |
| 0 .10048 84003 37317 06730 | root of $9x e^x = 1$ |
| 0 .10052 26031 67572 83208 | root of $e^x = 11x$ (other is 3.70853 ...) |
| * 0 .10132 11836 42337 77144 | π^{-2} |
| 0 .10213 40744 24276 83544 | $e^{-25} \int_0^5 e^{t^2} dt$ |
| 0 .10231 48329 60640 81330 | $-\ln \Gamma(5/3)$ |
| * 1 .10326 26513 20837 25744 | $1/\Gamma(5/4)$ |
| 0 .10344 82758 62068 96552 | $3/29$ |
| 0 .10352 76180 41008 30494 | $(\sqrt{6} - \sqrt{2})/10$ |
| 2 .10380 34027 35536 53316 | root of $x^3 - 3x - 3 = 0$ |
| 0 .10431 45751 96715 88765 | $Y_1(9)$ Bessel Function |
| * 0 .10452 84632 67653 47140 | $\sin 6^\circ = (\sqrt{30-6\sqrt{5}} - \sqrt{5} - 1)/8 \dots$ |
| 1 .10455 48073 72182 34290 | $F(1,1.2)$ |
| 1 .10479 13929 82511 90394 | $\coth 1.5$ |
| 0 .10510 42352 65676 46251 | $\tan 6^\circ = (\sqrt{3} + \sqrt{10-2\sqrt{5}} - \sqrt{15})/2$ |
| 0 .10526 31578 94736 84211 | $2/19$ |
| 1 .10554 15967 85133 28304 | $\sqrt{11}/3$ |
| * 0 .10583 24004 55335 31104 | root of $17x e^x = 2$ |
| 3 .10583 62368 81219 73406 | $10^5 - 31830\pi$ |
| 0 .10587 45108 23706 98624 | root of $e^x = 10.5x$ (other is 3.64463 ...) |

(continued)

Table I (continued)

| | | Ref. |
|----------------------------|--|------|
| * .10628 37195 02643 63832 | $\ln 2 / (\ln 5 - \ln 4)$ | |
| 2 .10653 74432 94089 65766 | $\sqrt{71}/4$ | |
| 0 .10703 24315 40937 54689 | $-J_1(2)$ Bessel Function | |
| 0 .10714 28571 42857 14286 | $3/28$ | |
| 1 .10714 87177 94090 50302 | $\arccot 0.5$ | |
| 3 .10723 25059 53858 86688 | $30^{1/3}$ | |
| * | | |
| 1 .10773 21674 32472 46940 | $1/\Gamma(5/3)$ | |
| 2 .10818 51067 78919 55467 | $\sqrt{40}/3$ | |
| * | | |
| 0 .10885 75528 78545 05540 | root of $2x + 2 + \ln x = 0$ | |
| 6 .10905 13237 07206 58159 | $\sqrt{5} + \sqrt{15}$ | |
| 3 .10912 63510 29605 01518 | $\sqrt{87}/3$ | |
| * | | |
| 1 .11029 66792 61921 90841 | [1, 9, 15, 21, ...] odd nonprimes | 15 |
| 0 .11043 42591 12236 27834 | root of $\cos x = 9x$ | |
| 0 .11043 97399 56260 61377 | $\sqrt{21} - \sqrt{20}$ | |
| 1 .11051 05035 81112 12897 | root of $\cos x = 0.4x$ | |
| 4 .11061 98681 99447 24832 | [4, 9, 25, ...] squares of primes | 15 |
| 1 .11072 07345 39591 56175 | $\pi/\sqrt{8}$ | |
| 0 .11133 42658 69564 69049 | $\zeta(9)/9$ | |
| 0 .11134 10143 40963 89232 | $\arcsin(1/9)$ | |
| 0 .11178 01089 32788 50682 | root of $8x e^x = 1$ | |
| 0 .11183 25591 58962 96483 | root of $e^x = 10x$ (other is 3.57715 ...) | |
| 0 .11248 75124 87512 48751 | 563/5005 | |
| * | | |
| 1 .11277 56842 78705 47063 | root of $x^7 - x - 1 = 0$ | |
| 1 .11283 57888 98764 24838 | $2\Gamma(5/4)/(\sqrt{\pi} \Gamma(7/4))$ | |
| 0 .11299 17204 24075 25000 | $-J_2(8)$ Bessel Function | |
| 0 .11319 16417 40342 62221 | $-\ln \Gamma(4/3)$ | |
| 0 .11323 70114 58905 84058 | $\sqrt{20} - \sqrt{19}$ | |
| 1 .11355 28725 66004 38442 | $\sqrt{31}/5$ | |
| * | | |
| 0 .11490 34849 31900 48047 | $J_2(1)$ Bessel Function | |
| 0 .11538 46153 84615 38462 | $3/26$ | |
| 3 .11554 49575 61439 71592 | $\cot 10000$ | |
| * | | |
| 0 .11593 15156 58412 44881 | $\ln 2 - \gamma$ | 10 |
| 4 .11594 11448 74045 21871 | $(\sqrt{15} + \sqrt{19})/2$ | |
| 0 .11603 43815 50200 37810 | $\text{bei}(5)$ Bessel Function | |
| 0 .11625 82564 21388 40558 | $\sqrt{19} - \sqrt{18}$ | |
| * | | |
| 0 .11685 02750 68084 91368 | $(\pi^2 - 8)/16$ | |
| * | | |
| 0 .11731 54816 47287 47597 | $-J_2(5.5)$ Bessel Function | |
| 0 .11764 70588 23529 41176 | $2/17$ | |
| 1 .11803 39887 49894 84820 | $\sqrt{5}/2$ | |
| 0 .11844 06094 63380 93280 | root of $15x e^x = 2$ | |

(continued)

Table I (continued)

| | Ref. |
|---|------|
| 0 .11850 67915 94974 55771 * 1 .11951 51349 20247 62854 | |
| 0 .11953 50615 01624 59658 * 2 .11967 74846 03224 30239 | |
| 1 .11976 95149 98634 18669 | |
| 1 .11984 65217 22185 68498 | |
| 0 .12044 21323 01017 64656 | |
| 6 .12125 04668 98068 30129 | |
| 2 .12132 03435 59642 57320 * 1 .12246 20483 09372 98143 | |
| 3 .12249 89991 99199 10292 | |
| 2 .12283 09660 40883 85583 | |
| 4 .12310 56256 17660 54982 | |
| 0 .12327 12803 38402 47001 | |
| 0 .12403 96181 24590 68008 | |
| 0 .12435 49945 46761 43503 | |
| 4 .12515 34106 60444 24332 | |
| 0 .12532 78311 68065 39687 | |
| 0 .12550 96695 24743 04242 | |
| 0 .12566 37061 43591 72954 | |
| 15 .12570 06123 90968 77628 | |
| 0 .12595 11328 36175 57162 | |
| 0 .12603 58732 69156 04807 | |
| 4 .12689 43739 83084 33693 | |
| 3 .12694 38398 82286 36971 | |
| 0 .12701 66537 92583 11482 | |
| 1 .12762 59652 06380 78523 | |
| 1 .12837 91670 95512 57390 | |
| 3 .12891 02354 58700 51258 | |
| 0 .12903 22580 64516 12903 * 1 .12917 38854 50141 23991 | |
| 2 .12927 94550 94817 49683 | |
| 0 .12933 98281 53178 25018 | |
| 0 .12934 80012 36005 11559 | |
| 2 .12937 24827 60156 69638 | |
| 2 .12970 25489 83306 41813 | |
| 1 .13038 83305 20878 02318 | |
| 0 .13043 47826 08695 65217 * 0 .13052 47555 68520 58147 | |
| 0 .13089 96938 99574 71827 | |

(continued)

Table I (continued)

| | Ref. |
|-------------------------------|-------------|
| * 0 .13132 59594 33475 49960 | |
| 1 .13137 08498 98476 03904 | |
| * 1 .13196 57466 21704 26643 | |
| 3 .13226 54505 40420 10683 | |
| 6 .13228 94796 63686 11662 | |
| 0 .13249 73406 83700 06575 | |
| * 0 .13429 06875 02502 74970 | |
| 2 .13437 47458 10949 56216 | |
| 0 .13448 68295 31580 50875 | |
| 0 .13459 71534 75787 79390 | |
| 1 .13472 41384 01519 49261 | |
| 0 .13493 41839 94670 64347 | |
| * 0 .13533 52832 36612 69189 | |
| 2 .13600 09363 29382 79197 | |
| 0 .13610 61113 09952 09246 | |
| * 0 .13659 09849 38686 66254 | |
| * 0 .13737 75273 62327 18572 | |
| * 0 .13762 02720 90920 11159 | |
| 0 .13793 10344 82758 62069 | |
| * 23 .14069 26327 79269 00573 | |
| 2 .14093 25386 38539 59165 | |
| * 3 .14103 42316 36934 24536 | |
| 7 .14142 84285 42849 99800 | |
| 0 .14143 07614 07572 83596 | |
| 0 .14144 96603 26234 70606 | |
| 3 .14159 26525 82646 12521 | |
| 3 .14159 26535 89793 23846 | |
| 3 .14164 07864 99873 81785 | |
| 0 .14194 48385 28826 41030 | |
| 1 .14260 91000 66840 68749 | |
| 0 .14279 96660 72263 32902 | |
| 0 .14285 71428 57142 85714 | |
| 0 .14334 75689 05365 35760 | |
| 2 .14404 04325 27045 56207 | |
| 0 .14404 98967 68846 11812 | |
| 0 .14427 49507 20886 22350 | |
| 0 .14442 13531 37509 72917 | |
| 3 .14466 03773 52201 27044 | |
| 1 .14471 42425 53331 86781 | |
| 1 .14472 98858 49400 17414 | |
| | 36 |
| | 15,27 |
| | 6 |
| | 6 |
| | 28 |
| | (continued) |

Table I (continued)

| | Ref. |
|---|--|
| 0 .14484 73415 32503 97263 2 .14502 93971 11025 60008 13 .14504 72065 96874 41286 0 .14541 34578 69471 74887 1 .14562 79952 07260 29079 1 .14564 39237 38960 00165 * 0 .14591 81379 66785 79888 3 .14626 43699 41972 34233 0 .14747 68247 82354 73794 0 .14786 31433 91226 84480 2 .14811 24370 17298 29356 * 1 .14891 25293 07605 73197 0 .14899 92965 12508 59506 * 0 .14959 96501 70942 53516 1 .15018 81196 97404 52439 2 .15058 13167 60656 69293 0 .15064 52572 50996 93166 1 .15091 10843 35942 61205 * 1 .15145 38467 93758 50553 17 .15278 97082 68945 09576 * 2 .15329 23641 10349 64917 4 .15331 19314 59037 42629 0 .15342 64097 20027 34529 0 .15384 61538 46153 84615 1 .15417 14951 81441 26737 15 .15426 22414 79264 18976 0 .15434 71301 87020 51712 2 .15443 46900 31883 72176 1 .15470 05383 79251 52902 1 .15551 11646 44179 54370 0 .15561 59666 74500 43057 1 .15572 73497 90921 71791 0 .15581 46036 00899 35455 1 .15606 15326 80811 19492 0 .15643 44650 40230 86901 * 0 .15651 76427 49665 65182 * 0 .15707 96326 79489 66192 0 .15718 70894 73767 85592 2 .15735 38153 60895 79634 0 .15789 47368 42105 26316 | $J_2(9)$ Bessel Function $\pi^{2/3}$ $\Gamma^2(1/4)$ $2 - \ln(e^2 - 1)$ $\pi(0.5 - e^{-2})$ $\sqrt{21}/4$ $Y_1(2.5)$ Bessel Function $\sqrt{2} + \sqrt{3}$ $\sqrt{12} - \sqrt{11}$ $Y_1(5)$ Bessel Function $f(2.5)$ $\sqrt{33}/5$ root of $3x \ln x = x - 1$ $\pi/21$ $(1 - 1/2 + 1/3 - 1/5 \dots)(1 + \sqrt{5})/2$ $\sqrt{74}/4$ $J_0(6)$ Bessel Function root of $x^3 + x^2 + x - 4 = 0$ $7\pi^2/60$ $(\pi+1)^2$ root of $e^x = 4x$ (other is 0.35740 ...) $\sqrt{69}/2$ $(1 - \ln 2)/2$ $2/13$ root of $x^3 + 3x - 5 = 0$ e^e $\sqrt{11} - \sqrt{10}$ $10^{1/3}$ $\sqrt{12}/3$ $\sqrt{20} - \sqrt{11}$ root of $11x e^x = 2$ π/e root of $e^x = 7.5x$ (other is 3.16800 ...) $\sqrt{13} - \sqrt{6}$ $\sin 9^\circ = (\sqrt{2} + \sqrt{10} - 2\sqrt{5} - \sqrt{5})/8$ $1/(e^2 - 1)$ $\pi/20$ $3/(e^3 - 1)$ $-\cot 10^\circ$ $3/19$ |

(continued)

Table I (continued)

| | Ref. | |
|--|---|---------------------|
| 0 .15806 04617 31247 49426 * 0 .15838 44403 24536 29384 2 .15879 89303 42464 17048 0 .15917 45389 54861 59239 1 .15927 94807 27408 59985 0 .16015 46947 96271 67625 2 .16024 68994 69286 74366 0 .16040 03934 84923 72968 0 .16129 03225 80645 16129 * 3 .16227 76601 68379 33200 4 .16331 04709 41149 34620 0 .16379 04086 54136 00439 2 .16395 34137 38652 28488 6 .16441 40029 68976 45025 0 .16441 89382 60431 11595 2 .16506 35094 61096 61691 0 .16510 65507 26312 65311 0 .16534 69817 67883 85466 1 .16556 11852 07211 30683 1 .16619 03789 69060 09417 2 .16631 27473 97789 02222 1 .16659 52148 85386 52773 0 .16666 66666 66666 66667 1 .16730 39782 61418 68426 0 .16744 80792 19689 33055 3 .16800 51063 44226 85819 * 0 .16891 59734 99109 56512 0 .16919 26038 56225 10297 0 .16955 71769 97408 18995 1 .17012 09500 02626 05371 0 .17074 18220 04801 41406 * 26 .17138 88922 76760 09057 0 .17157 28752 53809 90240 0 .17165 08071 37553 90609 3 .17221 89581 25450 52773 0 .17241 37931 03448 27586 1 .17260 39399 55857 38864 * 0 .17364 81776 66930 34885 0 .17391 30434 78260 86957 0 .17453 29251 99432 95769 | $-Y_1(8)$ Bessel Function $\tan 9^\circ = (1 - \sqrt{5-2\sqrt{5}})/(1 + \sqrt{5-2\sqrt{5}})$ $\pi/2 + \arctan(2/3)$ $-\log_{10} \ln 2$ $\arccos 0.4$ $\int_0^\infty e^{-x^2}/(x+5) dx$ $\sqrt{42}/3$ $-Y_2(3)$ Bessel Function $5/31$ $\sqrt{10}$ [4, 6, 8, 9, ...] terms are all composite numbers $6 - 3^3 e^{-3} \sqrt{6\pi}$ $\coth 0.5$ $\sqrt{38}$ root of $\cos x = 6x$ $\sqrt{75}/4$ $(\sum_{n=1}^{\infty} (-1)^{n+1} \cdot n/a_n)^2$ $\pi/19$ root of $\tan x = 2x$ $\sqrt{34}/5$ root of $x^3 - x - 8 = 0$ $2(14)!/(2\pi)^{14}$ $1/6$ root of $x^5 - x - 1 = 0$ $\arcsin(1/6)$ root of $e^x = 7.5x$ (other is 0.15581 ...) root of $5x e^x = 1$ root of $e^x = 7x$ (other is 3.06642 ...) $\zeta(6)/6 = \pi^6/5670$ root of $3 \cos x = x$ $25e^5/(e^5 - 1)^2$ $3 \cdot 5 \cdot 7 \cdot 9 \sqrt{\pi}/64$ $3 - \sqrt{8}$ $J_0(8)$ Bessel Function e^{2Y} $5/29$ $\sqrt{22}/4$ $\sin 10^\circ = \text{root of } 8x^3 - 6x + 1 = 0$ $4/23$ $\pi/18$ | 15 33 8 10 |

(continued)

Table I (continued)

| | | Ref. |
|----------------------------|---|------|
| * | | |
| 0 .17501 03443 00398 25064 | $-Y_1(6)$ Bessel Function | |
| 1 .17520 11936 43801 45688 | $\sinh 1$ | |
| * | | |
| 0 .17647 05882 35294 11765 | $3/17$ | |
| 7 .17671 16727 42093 97280 | $\Gamma^2(1/3)$ | |
| * | | |
| 0 .17753 29665 75886 78176 | $1 - \pi^2/12$ | |
| 2 .17758 60903 03602 13050 | $\pi \ln 2$ | |
| 0 .17759 67713 14338 30435 | $-J_0(5)$ Bessel Function | |
| 0 .17827 10306 10558 28734 | $e^{-9} \int_0^3 e^{-t^2} dt$ | 35 |
| 8 .17836 81036 10282 40958 | $\sum_{n=1}^{2000} 1/n$ | |
| 1 .17851 13019 77579 20733 | $\sqrt{50}/6$ | |
| 0 .17857 14285 71428 57143 | $5/28$ | |
| 1 .17897 97444 72167 27023 | $2\pi^{-1} \int_0^\pi t^{-1} \sin t dt$ Gibb's Constant | 2 |
| 2 .17944 94717 70336 77612 | $\sqrt{19}/2$ | |
| 1 .17950 90246 02916 76856 | root of $x^3 + 2x - 4 = 0$ | |
| 0 .17958 71221 25166 56169 | $\pi^{-3/2}$ | |
| 0 .17965 20355 07897 34573 | $1/\Gamma(1/6)$ | |
| 3 .17979 73380 56485 49718 | $\sqrt{91}/3$ | |
| 1 .17994 28331 21588 77659 | $(1 + 1/2 + 1/3 + 1/5 + \dots)/2$ | 31 |
| 2 .17998 10721 58157 28502 | root of $x^3 - 2x - 6 = 0$ | |
| 0 .17801 26359 04475 28755 | $(C-1)/(C+1) \quad C = [1, 2, 3, 4, 5, \dots]$ | 15 |
| * | | |
| 1 .18127 37092 74658 12676 | $1 + 2 \sum_{n=1}^{\infty} (n+2)/((n+2)!)^2$ | |
| 0 .18152 33741 86222 57917 | $\pi^{12} - 924269$ | |
| 0 .18267 58136 81599 50710 | $\sqrt{8} - \sqrt{7}$ | |
| 1 .18321 59566 19923 20851 | $\sqrt{35}/5$ | |
| 4 .18330 01326 70377 73989 | $\sqrt{70}/2$ | |
| * | | |
| 0 .18473 81991 44255 72190 | root of $9x e^x = 2$ | |
| 0 .18479 95678 58223 13167 | $\pi/17$ | |
| 0 .18513 56391 96836 08738 | root of $e^x = 6.5x$ (other is 2.95545 ...) | |
| * | | |
| 2 .18581 28414 34000 21745 | $\sqrt{43}/3$ | |
| * | | |
| 9 .18631 71048 47319 46043 | root of $x \ln x = 2x + 2$ | |
| 1 .18639 95522 99257 53619 | $\arccos(3/8)$ | |
| 1 .18656 91104 15625 45282 | $\pi^2/(12 \ln 2)$ | |
| 5 .18737 75176 39620 26081 | $\sum_{n=1}^{100} 1/n$ | |
| * | | |
| 4 .18879 02047 86390 98462 | $4\pi/3$ | |
| 2 .18890 10593 16733 94201 | $(\sqrt{3} + \sqrt{7})/2$ | |
| 0 .18902 19439 20826 50675 | $Y_0(3.5)$ Bessel Function | |
| 1 .18920 71150 02721 06672 | $2^{1/4}$ | |
| * | | |
| 1 .19023 80714 23808 33300 | $\sqrt{51}/6$ | |
| 1 .19028 99496 82531 73293 | $\operatorname{arecot} 0.4$ | |
| 0 .19047 61904 76190 47619 | $4/21$ | |

(continued)

-20-
Table I (continued)

| | | Ref. |
|-----------------------------|---|-------|
| 11 .19080 80477 38830 97155 | $2\pi e^\gamma$ | |
| 1 .19087 45855 22238 64864 | $10^{11} - 31830988618\pi$ | 10 |
| * | | |
| 2 .19133 77130 90894 24432 | $\sqrt{13} - \sqrt{2}$ | |
| 0 .19230 76923 07692 30769 | $5/26$ | |
| * | | |
| 1 .19269 47246 46388 14868 | $2e E_1(1)$ | 9 |
| 0 .19314 71805 59945 30942 | $\ln 2 - 0.5$ | |
| 2 .19328 00507 38015 45656 | $e^{\pi/4}$ | |
| 0 .19354 83870 96774 19355 | $6/31$ | |
| 2 .19374 10968 48030 51510 | $\sqrt{77}/4$ | |
| 0 .19392 87476 87422 35540 | $-J_0(9.5)$ Bessel Function | |
| 1 .19421 87900 26849 50536 | $\sum_{n=1}^{\infty} (1+1/(2\pi))^n$ | |
| 3 .19451 32427 36193 31289 | [3, 5, 7, 11, ...] terms are odd primes | 15 |
| 0 .19452 80494 65325 11362 | $(e^2-7)/2 = C_2$ | 21 |
| 0 .19470 50086 29504 53327 | $-Y_0(4.5)$ Bessel Function | |
| 1 .19476 32172 87109 30411 | $\operatorname{arcsinh} 1.5$ | |
| 0 .19575 25823 77081 13613 | $\int_0^{\infty} e^{-x^2}/(x+4) dx$ | |
| 2 .19582 33454 45647 15283 | root of $x^3 - 3x - 4 = 0$ | |
| 1 .19595 57860 17513 59600 | $1 + 1/2 \cdot 3 + 1/5 \cdot 8 + 1/13 \cdot 21 + \dots$ | 31 |
| 5 .19615 24227 06631 88058 | $\sqrt{27}$ | |
| 0 .19616 42811 87842 14924 | root of $\cos x = 5x$ | |
| 0 .19626 15682 81412 49230 | $\sqrt{7} - \sqrt{6}$ | |
| 0 .19634 95408 49362 07740 | $\pi/16$ | |
| 1 .19662 12833 72294 22024 | $\sqrt{19} - \sqrt{10}$ | |
| 1 .19698 31140 13373 49728 | [1, 5, 13, 17, ...] | 15,26 |
| 3 .19722 10155 41813 02773 | $\sqrt{92}/3$ | |
| 2 .19722 45773 36219 38279 | $\ln 9$ | |
| 0 .19739 55598 49880 75837 | $\arctan 0.2$ | |
| 0 .19772 19567 05868 02754 | $(1-2(\ln 2)^2)^{1/2} = (f(1))^{-1}$ | 44 |
| * | | |
| 4 .19807 31942 70131 93619 | $2(\sqrt{5}-1)[1, 1, 2, 3 \dots]$ | 15,31 |
| 0 .19866 93307 95061 21546 | $\sin 0.2$ | |
| 1 .19895 78808 28179 88540 | $\sqrt{23}/4$ | |
| 1 .19967 86402 57733 83392 | root of $\coth x = x$ | |
| 6 .20000 45360 03311 28242 | $7654321/1234567$ | |
| 0 .20135 79207 90330 79146 | $\arcsin 0.2$ | |
| 0 .20140 52352 72642 18062 | root of $e^{1/x}(5x-1) = 5x$ | 34 |
| 21 .20143 56605 49920 74009 | maximum of $x^{-5}(e^{1/x}-1)^{-1}$ | 34 |
| 3 .20156 21187 16424 34324 | $\sqrt{41}/2$ | |
| 1 .20185 04251 54663 09771 | $\sqrt{13}/3$ | |
| 1 .20191 31636 66184 62482 | root of $\cos x = 0.3x$ | |
| 1 .20205 69031 59594 28540 | $\zeta(3)$ | 8 |

(continued)

Table I (continued)

| | Ref. |
|--|--|
| 1 .20216 78731 97042 93921 * 0 .20318 78699 79979 95384 0 .20324 11861 57877 67762 0 .20328 09514 31295 37148 * 0 .20388 83547 02240 16444 0 .20420 53115 48708 22667 0 .20448 14493 39915 53362 2 .20452 53944 51717 19008 0 .20477 09230 10457 97247 2 .20500 32780 24059 97049 0 .20609 01588 37516 01836 0 .20634 56499 01055 83310 0 .20689 65517 24137 93103 0 .20710 67811 86547 52440 0 .20723 60838 12211 65251 0 .20738 55510 28673 98527 * 0 .20787 95763 50761 90855 0 .20791 16908 17759 33710 2 .20794 02165 81961 71369 0 .20825 62704 16469 44245 0 .20871 21525 22079 99671 1 .20919 95761 56145 23373 1 .20924 21466 73226 85556 0 .20943 95102 39319 54923 2 .20975 33012 08849 04384 0 .21001 82300 18964 42004 * 0 .21052 63157 89473 68421 9 .21096 43874 01485 17920 2 .21108 31935 70266 56608 7 .21110 25509 27978 58624 1 .21152 76586 28588 44636 1 .21202 56565 24324 39884 * 4 .21307 48865 88179 31532 * 1 .21335 16482 13419 71185 1 .21341 16627 62229 63413 0 .21342 17652 83388 40179 * 0 .21428 57142 85714 28571 3 .21455 02536 64318 33192 * 0 .21590 35946 03614 99453 1 .21655 25060 59643 93780 | root of $x e^x = 4$ root of $\ln x = 2x - 2$ root of $250x^3 - 2x^2 - 5x - 1 = 0$ $\ln \Gamma(3/4)$ root of $4x e^x = 1$ $[0, 1, 1, 2, 3, \dots]^3$ root of $e^x = 6x$ (other is 2.83314 ...) root of $x \tan x + 3 = 0$ $(\pi - \sqrt{3} - 1)/2$ root of $x e^x = 20$ $\sqrt{e}/8$ $e^{\frac{4}{4}} E_1(4)$ $6/29$ $(\sqrt{2}-1)/2$ $1 - F(1,0)$ $\zeta(5)/5$ $e^{-\pi/2}$ $\sin 12^\circ = (1/16)(2\sqrt{3} - 2\sqrt{15} + \sqrt{5-2\sqrt{5}} + \sqrt{25+10\sqrt{5}})$ $\sqrt{78}/4$ $3e^3/(e^3-1) - \ln(e^3-1)$ $(5-\sqrt{21})/2 = \text{root of } x^2 - 5x + 1 = 0$ $2\pi\sqrt{3}/9$ $\sqrt{3} [0, 1, 2, 3, 5, \dots]$ $\pi/15$ root of $x^3 + x - 13 = 0$ $\ln \lambda(2) = \ln(\pi^2/8)$ $4/19$ root of $x \tan x + 2 = 0$ $\sqrt{44}/3$ $\sqrt{52}$ $10^{1/12}$ $\arccot(3/8)$ $\sqrt{71}/2$ $\sqrt{53}/6$ root of $x^3 + x - 3 = 0$ $\sqrt{6} - \sqrt{5}$ $3/14$ $\sqrt{93}/3$ $E_2(4)$ Bessel Function $\sqrt{37}/5$ |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|-------|
| * 0 .21716 78443 07476 32387 | root of $dF(1,x)/dx = 0$ See 0.74531 ... | |
| 0 .21728 68967 51640 17879 | $\sqrt{\sqrt{125}-10}/5$ | |
| 0 .21739 13043 47826 08696 | 5/23 | |
| 0 .21784 89836 85845 58702 | $J_2(4.5)$ Bessel Function | |
| 0 .21846 62898 86022 99468 | $(\sqrt{23} - \sqrt{19})/2$ | |
| * | | |
| 0 .21938 39343 95520 27368 | $E_1(1)$ | 9 |
| * | | |
| 1 .22074 40846 05759 47536 | root of $x^4 - x - 1 = 0$ | |
| 0 .22138 02495 98693 88887 | $-ber(3)$ Bessel Function | |
| 2 .22144 14690 79183 12351 | $\pi/\sqrt{2}$ | |
| 2 .22204 86043 28897 21252 | $\sqrt{79}/4$ | |
| 0 .22352 14893 87566 22053 | $Y_0(8)$ Bessel Function | |
| 0 .22360 67977 49978 96964 | $\sqrt{5}/10$ | |
| 0 .22388 75363 52072 20408 | $(\sqrt{22} - \sqrt{18})/2$ | |
| 0 .22389 07791 41235 66805 | $J_0(2)$ Bessel Function | |
| 2 .22398 00905 69315 52117 | $11^{1/3}$ | |
| 0 .22439 94752 56413 80275 | $\pi/14$ | |
| 0 .22451 72519 83232 06267 | γ^e | 10 |
| 1 .22474 48713 91589 04910 | $\sqrt{6}/2$ | |
| 2 .22475 14809 80583 01538 | $[2,4,2,4,2,3,2,4,2,4,2,3,2,4,2,4,2,3,2,4,2,4,2,3,2,4,2, \dots]$ | 15,19 |
| * | | |
| 1 .22541 67024 65177 64513 | $\Gamma(3/4)$ | |
| 0 .22580 64516 12903 22581 | 7/31 | |
| 0 .22675 56815 74643 36765 | $-Y_2(9)$ Bessel Function | |
| 1 .22723 20351 42826 29468 | $\sqrt{15} - \sqrt{7}$ | |
| 4 .22745 35333 76265 40809 | $-\psi(1/4) = \gamma + 3 \ln 2 + \pi/2$ | 10 |
| 0 .22755 09577 68849 99385 | $4/\pi^2 e^\gamma$ | 10 |
| 0 .22756 34054 87472 14332 | root of $7x e^x = 2$ | |
| 0 .22787 91541 62691 79771 | $J_2(9.5)$ Bessel Function | |
| 5 .22797 19246 77803 66749 | $\sinh(3\pi/4)$ | |
| * | | |
| 1 .22803 36376 37964 89065 | $\sqrt{12} - \sqrt{5}$ | |
| * | | |
| 0 .22849 14041 10495 58049 | root of $e^x = 5.5x$ (other is 2.69682 ...) | |
| 0 .22882 28082 15942 24834 | $\sqrt{\pi/60}$ | |
| 0 .22949 52678 80294 24641 | $\sqrt{20} - \sqrt{18}$ | |
| 0 .22973 50346 69089 72838 | $(\sqrt{21} - \sqrt{17})/2$ | |
| 0 .22985 79025 48113 07052 | $Y_2(6)$ Bessel Function | |
| 6 .23008 24786 66357 73319 | $-ber(5)$ Bessel Function | |
| * | | |
| 0 .23027 34105 25790 26215 | $-J_2(7.5)$ Bessel Function | |
| 0 .23076 92307 69230 76923 | 3/13 | |
| 0 .23083 50985 83083 45189 | $(\ln 2)^4$ | |
| 1 .23095 94173 40774 68213 | $\arccos(1/3)$ | |
| 0 .23106 04319 23370 63401 | $-J_1(4.5)$ Bessel Function | |

(continued)

Table I (continued)

| | Ref. |
|-----------------------------|------|
| 1 .23153 77486 91495 54170 | |
| 3 .23178 65716 10886 00938 | |
| 2 .23182 86244 09009 36739 | |
| 0 .23208 76721 44214 72724 | |
| 0 .23240 81207 56001 78448 | |
| 1 .23288 28005 93795 29005 | |
| 4 .23295 88222 92912 77876 | |
| 1 .23370 05501 36169 82735 | |
| * | |
| 0 .23463 63468 53914 62438 | |
| 0 .23529 41176 47058 82353 | |
| 0 .23570 22603 95515 84147 | |
| 0 .23579 33179 23013 00242 | |
| 1 .23603 30811 82610 49145 | |
| 2 .23606 79774 99789 69641 | |
| 0 .23809 52380 95238 09524 | |
| 67 .23813 22487 89187 10140 | |
| 0 .23845 70554 67954 41193 | |
| * | |
| 1 .23861 26258 46666 75906 | |
| 21 .23940 25795 72208 73417 | |
| 1 .23978 45987 05602 09151 | |
| 0 .23981 17420 00564 72594 | |
| 2 .24004 09874 69437 75817 | |
| 1 .24019 34727 13540 40291 | |
| 3 .24037 03492 03930 11548 | |
| 1 .24070 09817 98800 03334 | |
| 0 .24137 93103 44827 58621 | |
| 0 .24145 30070 05223 85466 | |
| 0 .24156 44752 70490 44469 | |
| 0 .24166 09733 53061 01834 | |
| * | |
| 0 .24226 84576 74873 88638 | |
| 4 .24264 06871 19285 14641 | |
| 0 .24267 46806 40890 20167 | |
| 0 .24287 32099 60185 46772 | |
| 0 .24295 77986 66628 33353 | |
| 1 .24327 23122 21374 20145 | |
| 1 .24328 84783 99715 64408 | |
| * | |
| 0 .24491 86624 03709 12928 | |
| 0 .24497 86631 26864 15417 | |
| 6 .24499 79983 98398 20585 | |
| 0 .24531 17865 73325 27232 | |

(continued)

Table I (continued)

| | | Ref. |
|-------------------------------|---|------|
| * 0 .24593 57644 51348 33520 | -J ₀ (10) Bessel Function | |
| 1 .24721 91289 24647 12853 | $\sqrt{14}/3$ | |
| 0 .24740 39592 54522 92960 | $\sin 0.25$ | |
| 0 .24746 64615 47263 45294 | $\operatorname{arcsinh} 0.25$ | |
| 3 .24893 14482 69654 63561 | $\sqrt{95}/3$ | |
| 1 .24899 95996 79679 64117 | $\sqrt{39}/5$ | |
| 0 .24901 54242 06953 88392 | Y ₁ (10) Bessel Function | |
| 0 .24930 12830 | $(1/2 - 1/3) + 1/5 - 1/7 + 1/11 - 1/13 + \dots$ twin primes | |
| 0 .24956 60400 36659 72142 | bei (1) Bessel Function | |
| 0 .24993 66982 85024 67602 | Y ₀ (9) Bessel Function | |
| 0 .25012 22794 10243 66464 | $\sqrt{17} - \sqrt{15}$ | |
| 0 .25049 16501 72671 88041 | $(\sqrt{18} - \sqrt{14})/2$ | |
| 0 .25069 87170 | $1/3 - 1/5 + 1/7 - 1/11 + 1/13 - \dots$ twin primes | |
| * 0 .25193 49964 48972 22840 | $\int_0^\infty e^{-x^2}/(x+3) dx$ | |
| 1 .25235 32340 02588 76319 | root of $4 \cos x = x$ | |
| 0 .25248 24589 25453 99604 | $3/2 - \ln(e^{3/2}-1)$ | |
| 0 .25261 23168 08168 30791 | $\sinh 0.25$ | |
| 0 .25268 02551 42078 65349 | $\arcsin 0.25$ | |
| 0 .25305 12805 96101 03125 | $2(12 !)/(2\pi)^{12} = 467775/2\pi^{12}$ | |
| 1 .25331 41373 15500 25121 | $\sqrt{\pi/2}$ | |
| 1 .25375 39340 92086 60456 | $\cosh(2\pi/9)$ | |
| 0 .25392 77431 75264 56667 | $1/2^2 + 1/4^4 + 1/6^6 + 1/8^8 \dots$ | |
| 1871 .25430 57977 88346 47692 | $\Gamma(7.5) = 135135\sqrt{\pi}/128$ | |
| 0 .25463 03136 85120 62253 | J ₂ (10) Bessel Function | |
| * 1 .25501 36915 93385 05842 | root of $x e^x \ln x = 1$ | |
| 0 .25541 28118 82995 34160 | $\operatorname{arctanh} 0.25 = 0.5 \ln(5/3)$ | |
| 1 .25611 76684 31800 47273 | $\psi(4) = 11/6 - \gamma$ | |
| 1 .25643 12086 26169 67698 | root of $e^x = 2x + 1$ | |
| 1 .25656 44277 10558 30942 | $\operatorname{arccot} 0.325$ | |
| 1 .25727 41156 69185 05938 | $\pi^{1/5}$ | |
| * 0 .25762 76530 49736 70428 | root of $3x e^x = 1$ | |
| 0 .25806 45161 29032 25806 | $8/31$ | |
| 2 .25825 88834 02608 58183 | root of $x^3 - 2x - 7 = 0$ | |
| 1 .25830 57392 11791 61621 | $\sqrt{57}/6$ | |
| 0 .25834 26132 26058 61442 | $4 - \sqrt{14}$ | |
| 0 .25877 71750 76835 62835 | $(\sqrt{17} - \sqrt{13})/2$ | |
| 0 .25881 90451 02520 76235 | $\sin 15^\circ = (\sqrt{6} - \sqrt{2})/4$ | |
| 0 .25881 94037 92806 79841 | $(3^{1/3} \Gamma(1/3))^{-1}$ | |
| 0 .25917 11018 19073 74506 | root of $e^x = 5x$ (other is 2.54264 ...) | |
| * 1 .25992 10498 94873 16477 | $2^{1/3}$ | |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 0 .26005 19549 01933 43762 | |
| 0 .26009 46055 81606 38140 | |
| * 1 .26050 54353 50809 38883 | |
| 2 .26050 78256 00940 55513 | |
| 3 .26086 95652 17391 30435 | |
| 1 .26140 95818 19465 63158 | |
| 0 .26149 72128 47642 78376 | |
| 3 .26168 56845 76488 77691 | |
| 0 .26179 93877 99149 43654 | |
| 0 .26208 37402 55318 49619 | |
| 1 .26262 72556 78911 68344 | |
| 0 .26303 66048 20378 09409 | |
| 0 .26315 78947 36842 10526 | |
| * 2 .26384 62845 34354 15664 | |
| 2 .26393 14932 43408 53286 | |
| 0 .26426 50385 05655 05235 | |
| 1 .26491 10640 67351 73280 | |
| * 3 .26598 63237 10904 13093 | |
| 1 .26610 36727 79499 11126 | |
| 0 .26633 96578 80378 39687 | |
| 7 .26637 13332 82502 94081 | |
| 0 .26743 20707 43427 59206 | |
| 0 .26749 88286 24587 40700 | |
| 0 .26794 91924 31122 70647 | |
| 0 .26848 68840 48115 07571 | |
| * 0 .26923 07692 30769 23077 | |
| 1 .26929 55176 43984 71428 | |
| 0 .26960 65 | |
| 0 .27058 08084 27784 5b788 | |
| * 0 .27175 82211 18238 64909 | |
| 2 .27199 83229 34631 23487 | |
| 4 .27200 18726 58765 58394 | |
| 1 .27201 96495 14068 96425 | |
| 1 .27323 95447 35162 68615 | |
| 1 .27475 48783 98196 20751 | |
| * 0 .27581 56628 30209 31436 | |
| 3 .27582 29187 21811 15979 | |
| 0 .27586 20689 65517 24138 | |
| * 1 .27653 29371 76749 38848 | |
| | 33 |

(continued)

Table I (continued)

| | Ref. |
|----------------------------|---|
| 0 .27668 38581 27565 60817 | -J ₁ (6) Bessel Function |
| 2 .27671 75312 28072 59731 | minimum of $(1+e^x)^2/x^2 e^x$ See 2.39935 ... |
| 5 .27686 47688 47125 76206 | $\sqrt{5}(1 + 1/2 + 1/3 + 1/5 + 1/8 + \dots)$ |
| * | $\sqrt{14} - \sqrt{12}$ |
| 0 .27755 57716 36186 79853 | $\sqrt{83}/4$ |
| 2 .27760 83947 86074 72049 | root of $x^3 + x^2 + x - 5 = 0$ |
| * | $(\sqrt{15} - \sqrt{11})/2$ |
| 1 .27816 30727 98148 59486 | root of $e^{-x} = x - 1$ |
| 0 .27817 92779 26008 51803 | $\sqrt{13}/2$ |
| 1 .27846 45427 61073 79511 | root of $x^3 - 3x - 5 = 0$ |
| 3 .27871 92621 51000 32617 | arccot 0.3 |
| 2 .27901 87861 66593 57949 | $\sum_{n=0}^{\infty} 1/(n!)^2 = J_0(21)$ Bessel Function |
| * | $\sqrt{53}$ |
| 1 .27933 95323 17029 52724 | $\sqrt{59}/6$ |
| 2 .27958 53023 36067 26744 | $(\ln(1 + \sqrt{2}))/\pi$ |
| 7 .28010 98892 80518 27110 | $\sqrt{41}/5$ |
| 1 .28019 09579 78101 36263 | $99^9 \times 10^{-369693099}$ |
| 0 .28054 99261 69590 06357 | $\sqrt{e^{2-3e+1}/(e-1)}$ |
| 1 .28062 48474 86569 73730 | root of $68e^x = x^5 + 5x^4 + 20x^3 + 60x^2 + 120x + 120$ |
| * | $3 - e$ |
| 4 .28124 77317 57470 48037 | $(\ln 13)/2$ |
| 0 .28164 94377 62988 76371 | $(2.5)^3 e^{-2.5}$ |
| 5 .28165 24660 99236 39262 | $\sum_{n=1}^{300} 1/n$ |
| 0 .28171 81715 40954 76464 | $\sqrt{2}/5$ |
| 1 .28247 46787 30768 36803 | $\sqrt{97}/3$ |
| 1 .28257 81034 98418 67452 | 2π |
| 6 .28266 38802 99503 46192 | $\sqrt{47}/3$ |
| 0 .28284 27124 74619 00976 | $(\pi-2)/4$ |
| 3 .28295 26005 98701 57392 | $\pi/11$ |
| 6 .28318 53071 79586 47693 | $2/7$ |
| * | root of $x^3 + 3x - 6 = 0$ |
| 2 .28521 82001 33681 37498 | $\ln \Gamma(1/4)$ |
| 0 .28539 81633 97448 30962 | $\Gamma(\pi)$ |
| 0 .28559 93321 44526 65804 | -J ₀ (6) Bessel Function |
| 0 .28571 42857 14285 71429 | $\gamma/2$ |
| * | $\sqrt{3}/6$ |
| 1 .28790 97507 04127 23594 | $\sqrt{13} - \sqrt{11}$ |
| 1 .28802 25246 98077 45737 | $1/2 - 1/3 + 1/5 - 1/8 \dots = 1 - \phi_2$ |
| 2 .28803 77953 40032 41796 | $12^{1/3}$ |
| 0 .28819 46839 81579 15407 | $(\sqrt{14} - \sqrt{10})/2$ |
| 0 .28860 78324 50766 43030 | |
| 0 .28867 51345 94812 88225 | |
| 0 .28892 64851 08589 44400 | |
| 0 .28914 46485 70671 58311 | |
| 2 .28942 84851 06663 73562 | |
| 0 .28968 98633 02781 02679 | |

(continued)

-27-
Table I (continued)

| | | Ref. |
|---------------------------------|---|------|
| 3 .28986 81336 96452 87294 * | $\pi^2/3$ | |
| 0 .29032 25806 45161 29032 | 9/31 | |
| 1 .29099 44487 35805 62839 | $\sqrt{15}/3$ | |
| 1 .29128 59970 62663 54041 | $1 + 1/2^2 + 1/3^3 + 1/4^4 + \dots$ | |
| 2 .29128 78474 77920 00329 | $\sqrt{21}/2$ | |
| 0 .29145 67944 77867 09200 | $\arctan 0.3$ | |
| 5 .29150 26221 29181 18100 | $\sqrt{28}$ | |
| 0 .29156 09040 30818 78014 | $\beta(2)/\pi$ | 8 |
| 1 .29216 76439 90763 28739 | $\sqrt{14} - \sqrt{6}$ | |
| 0 .29226 18751 66485 23063 * | $(f(1.5))^{-1}$ | 44 |
| 2 .29269 03226 99299 83359 * | bei (4) Bessel Function | |
| 2 .29316 62874 11861 03151 | root of $x^{x+1} = (x+1)^x$ | |
| 3020 .29322 77767 92067 51421 | π^7 | |
| 0 .29411 76470 58823 52941 | 5/17 | |
| 1 .29467 85008 71470 45222 | $\sqrt{17} - \sqrt{8}$ | |
| 1 .29468 32846 76844 68784 * | $\cosh 0.75$ | |
| 1 .29482 36078 23322 76181 | $-\cot 10^{12}$ | |
| 0 .29552 02066 61339 57511 | $\sin 0.3$ | |
| 0 .29522 90769 89542 02753 | $1 - (\pi - \sqrt{3})/2$ | |
| 57 .29577 95130 82320 87680 | $180/\pi$ | |
| 3 .29583 68660 04329 07419 | $\ln 27$ | |
| 1 .29614 81396 81572 04619 * | $\sqrt{42}/5$ | |
| 0 .29716 77506 73138 54678 | root of $5x e^x = 2$ | |
| 3 .29744 25414 00256 29370 | $2\sqrt{e}$ | |
| 0 .29793 97226 03012 06143 * | $(1/\sqrt{2\pi}) \int_0^1 e^{-x^2} dx$ | |
| 1 .29903 81056 76657 97015 | $\sqrt{27}/4$ | |
| 3 .29983 16455 37221 78054 | $\sqrt{98}/3$ | |
| 0 .29995 51794 47669 44335 | root of $e^x = 4.5x$ (other is 2.36474 ...) | |
| 5 .30003 40202 17729 39347 | 654321/123456 | |
| 0 .30007 92705 19555 59665 | $J_0(7)$ Bessel Function | |
| 0 .30099 73230 69654 62342 | $Y_1(4.5)$ Bessel Function | |
| 0 .30102 99956 63981 19521 | $\log_{10} 2$ | |
| 4 .30116 26335 21313 38586 | $\sqrt{74}/2$ | |
| 0 .30122 44879 47746 77993 * | ϕ_2/ϕ_1 | 32 |
| 2 .30129 89023 07294 87346 | $\sinh(\pi/2)$ | |
| 0 .30134 03889 23791 96603 | $e^{-t} \int_0^2 e^{t^2} dt$ | 35 |
| 0 .30141 72200 85940 12028 | $-J_2(7)$ Bessel Function | |
| 1 .30170 82793 17775 73235 | $\sqrt{61}/6$ | |
| 0 .30182 39549 69375 25506 | $\sqrt{12} - \sqrt{10}$ | |
| 2 .30258 50929 94045 68402 | $\ln 10$ | |

(continued)

Table I (continued)

| | | Ref. |
|----------------------------|---|-------|
| 0 .30266 72370 24184 87006 | $-Y_1(7)$ Bessel Function | |
| 0 .30277 56377 31994 64656 | $(\sqrt{13}-3)/2$ | |
| * | | |
| 1 .30313 32544 66797 97586 | $[1, 1, 2, 3, 5 \dots]^{1/2}$ | 15,31 |
| 0 .30315 02751 47523 56868 | $\ln \Gamma(2/3)$ | |
| 2 .30384 21962 83770 42211 | $[2, 3, 3, 2, 3, 3, 2, 3, 3, 2, 4, 2, 3, 3, 2, 3, 3, 2, 3, 3, 2, 3, 3, 2, 3, 3, 3 \dots]$ | 15,17 |
| 3 .30384 21963 07182 51299 | $[3, 3, 3, 2, 3, 3, 3, 2, 3, 3, 2, 3, 3, 3, 2, 3, 3, 3, 2, 3, 3, 3, 2, 3, 3, 3, 2, 3, 3, 3, 2 \dots]$ | 15,18 |
| 0 .30408 73193 52284 39701 | $1.6e^{\frac{4}{3}}/(e^{\frac{4}{3}}-1)^2$ | |
| 0 .30434 78260 86956 52174 | $7/23$ | |
| 6 .30444 88024 21981 20563 | $\ln 547$ | |
| 0 .30469 26540 15397 50797 | $\arcsin 0.3$ | |
| 2 .30488 61143 23221 82750 | $\sqrt{85}/4$ | |
| 2 .30539 73324 44509 15239 | root of $f(x) = x$ | 44 |
| 0 .30561 43888 88252 14136 | $-\sin 10^\circ$ | 42 |
| * | | |
| 0 .30685 28194 40054 69058 | $1 - \ln 2$ | |
| 0 .30743 03906 30828 48513 | $-J_2(6.5)$ Bessel Function | |
| 0 .30749 48788 | C_4 | 23 |
| 0 .30769 23076 92307 69231 | $4/13$ | |
| 0 .30847 39490 63878 16604 | $6435\pi/2^{16}$ | |
| 0 .30851 76252 49033 78007 | $-Y_0(5)$ Bessel Function | |
| 2 .30890 73197 65092 78705 | root of $x^3 - x - 10 = 0$ | |
| 0 .30901 69943 74947 42410 | $\sin 18^\circ = (\sqrt{5}-1)/4$ | |
| 2 .30940 10767 58503 05804 | $\sqrt{48}/3$ | |
| * | | |
| 1 .30979 95858 04150 47767 | root of $e^x \ln x = 1$ | |
| 1 .30985 82948 31200 06082 | $\sqrt{20} - \sqrt{10}$ | |
| * | | |
| 0 .31034 48275 86206 89655 | $9/29$ | |
| 1 .31079 48158 42111 57634 | $0.75 e^{0.75}/(e^{0.75}-1) - \ln(e^{0.75}-1)$ | |
| 1 .31102 87771 46059 90523 | $I^2(1/4)/4 \sqrt{2\pi} = \tilde{\omega}/2$ See 2.62205... | |
| 1 .31148 77048 60400 13047 | $\sqrt{43}/5$ | |
| 1 .31158 84052 65344 87131 | $2 \tanh(\pi/4)$ | |
| * | | |
| 1 .31233 46456 68635 16995 | $\sqrt{62}/6$ | |
| 1 .31303 52854 99331 30364 | $(e^2+1)/(e^2-1) = \coth 1$ | |
| 2 .31303 67364 33582 90638 | $[2, 3, 5, 7, \dots]$ terms are all primes | 15 |
| * | | |
| 0 .31415 92653 58979 32385 | $\pi/10$ | |
| 0 .31423 18990 84338 30981 | $\arctan 0.325$ | |
| 3 .31487 73617 86054 93090 | root of $e^x = 8x + 1$ | |
| 0 .31571 84520 53890 07685 | $\gamma - g$ | 10,11 |
| 0 .31578 94736 84210 52632 | $6/19$ | |
| 8 .31592 60942 73872 17362 | $[1, 1, 2, 3, 5, 8, \dots]^4$ | 15,31 |
| 1 .31594 72534 78581 14918 | $2\pi^2/15$ | |
| 0 .31622 77660 16837 93320 | $\sqrt{10}/10$ | |

(continued)

Table I (continued)

| | Ref. |
|---|-------|
| 2 .31645 49587 85612 30133 | |
| 3 .31662 47903 55399 84911 | |
| 0 .31675 08287 71221 17189 | |
| * 0 .31783 72451 95782 24473 | |
| 1 .31790 21514 54403 89486 | |
| 1 .31811 60716 52817 96575 | |
| 0 .31830 98861 83790 67154 | |
| 0 .31836 64762 15973 93815 | |
| 2 .31840 46238 73925 93813 | |
| * 1 .31926 33561 69539 28959 | |
| 3 .31978 32182 00604 47106 | |
| 0 .32054 25089 85121 42436 | |
| * 0 .32097 11346 23814 72461 | |
| 2 .32112 60468 92043 21507 | |
| 0 .32142 85714 28571 42857 | |
| * 0 .32218 53546 26085 59291 | |
| 0 .32258 06451 61290 32258 | |
| 5 .32275 21495 19958 52028 | |
| 1 .32287 56555 32295 29525 | |
| 3 .32335 09704 47842 55118 | |
| 6 .32455 53203 36758 66400 | |
| 1 .32460 90892 52005 84666 | |
| 0 .32467 44247 91799 97844 | |
| 1 .32471 79572 44746 02596 | |
| * 0 .32565 42945 96930 36129 | |
| 1 .32581 76636 68032 46506 | |
| 1 .32589 77669 01137 46480 | |
| 1 .32664 99161 42159 93965 | |
| 1 .32672 46652 42200 22364 | |
| 2 .32744 38244 00846 33678 | |
| 0 .32757 91375 91465 22204 | |
| 1 .32826 88556 68608 39092 | |
| 0 .32848 15966 60462 14368 | |
| 0 .32903 88790 01470 04377 | |
| 1 .32934 03881 79137 02047 | |
| 102 .32948 20068 24898 56830 | |
| 4 .33012 70189 22193 23382 | |
| 2 .33074 60861 24829 43391 | |
| 0 .33089 32682 04054 53357 | |
| 0 .33101 17280 89294 52772 | |
| root of $x^x = 7$ | |
| $\sqrt{11}$ | |
| root of $\cos x = 3x$ | |
| $\sqrt{3} - \sqrt{2}$ | |
| $\int_0^1 (e^x - 1)/x dx = \sum_{n=1}^{\infty} 1/(n \cdot n!) = Ei(1) - \gamma$ | 9,10 |
| arccos 0.25 | |
| $1/\pi$ | |
| [0, 3, 7, ...] primes of form $4n - 1$ | 15,27 |
| $\sqrt{86}/4$ | |
| $E_1(2) + \ln 2 + \gamma$ | 9,10 |
| ϕ_1/ϕ_2 | 32 |
| $-J_0(4.5)$ Bessel Function | |
| $\tan 10^4$ | |
| $(e^{1.5} - 1)/1.5$ | |
| $9/28$ | |
| root of $x^3 + 3x - 1 = 0$ | |
| $10/31$ | |
| cosh 0.75π | |
| $0.5\sqrt{7}$ | |
| $\Gamma(3.5) = 15\sqrt{\pi}/8$ | |
| $\sqrt{40}$ | |
| cosh 0.25π | |
| $Y_1(3)$ Bessel Function | |
| root of $x^3 - x - 1 = 0$ | |
| $1/(\phi_1 + \phi_2)$ | |
| arccot 0.25 | |
| arcsinh 1.75 | |
| $\sqrt{44}/5$ | |
| root of $x e^x = 5$ | |
| $\sqrt{14} - \sqrt{2}$ | |
| $-J_1(5)$ Bessel Function | |
| root of $x^3 + 2x - 5 = 0$ | |
| $Y_2(4.5)$ Bessel Function | |
| $429\pi/4096$ | |
| $\Gamma(2.5) = 0.75\sqrt{\pi}$ | |
| $2e^{13/2}/13$ | |
| $\sqrt{75}/2$ | |
| root of $x^3 - 2x - 8 = 0$ | |
| $-\ln(e-2)$ | |
| arcsin 0.325 | |

(continued)

Table I (continued)

| | Ref. |
|-----------------------------|---|
| 2 .33119 47347 28493 97187 | root of $x^3 + x - 15 = 0$ |
| 1 .33133 53638 00389 71280 | $\pi^{1/4}$ |
| 2 .33184 47632 72203 76139 | $\sqrt{87}/4$ |
| 0 .33301 99927 51734 82531 | $(\sum_{n=1}^{\infty} n/a_n)^{-1}$ |
| 0 .33302 46519 88929 47972 | $(\ln 2)^3$ |
| 0 .33385 05354 22189 23440 | $\sqrt{10} - \sqrt{8}$ |
| 1 .33456 82515 29384 30946 | $e^{\gamma/2}$ |
| 0 .33467 59379 35283 31766 | $\pi(e^{-0.5} - 0.5)$ |
| 7 .33474 65408 47962 41933 | -bei (6) Bessel Function |
| 0 .33498 13252 99965 06437 | $1/3 - 1/5 + 1/7 - 1/11 + 1/13 - \dots$ |
| 0 .33543 67396 45404 62931 | $(\sqrt{11} - \sqrt{7})/2$ |
| 2 .33666 29822 63053 88118 | root of $e^x = 4x + 1$ |
| 0 .33740 39229 00968 13466 | $Ci(1) = \gamma - 1/2 \cdot 2! + 1/4 \cdot 4! - 1/6 \cdot 6! \dots$ |
| 1 .33819 98648 98964 38141 | $\sum_{n=1}^{\infty} 1/n a_n$ |
| * | |
| 0 .33905 89585 25936 45893 | $J_1(3)$ Bessel Function |
| 0 .33983 69094 54121 93710 | $\arcsin(1/3)$ |
| 1 .34164 07864 99873 81785 | $\sqrt{45}/5$ |
| 1 .34170 68957 41298 57695 | maximum of $(F(1,x))^{-1}$ $x = 0.21716 \dots$ |
| * | |
| 52 .34277 77845 53520 18115 | $F(5.5) = 945 \sqrt{\pi}/32$ |
| 0 .34337 79615 56427 03283 | $\int_0^{\infty} xe^{-x} dx / (1 + x^2)$ |
| 1 .34370 96247 16424 94206 | $\sqrt{65}/6$ |
| * | |
| 1 .34425 08459 32326 46044 | $27/e^3$ |
| 0 .34482 75862 06896 55172 | $10/29$ |
| 2 .34520 78799 11714 77728 | $\sqrt{22}/2$ |
| 3 .34526 65137 08411 68912 | $\sqrt{2\pi e Y}$ |
| 0 .34615 38461 53846 15385 | $9/26$ |
| 1 .34629 12017 83626 00781 | $\sqrt{29}/4$ |
| 0 .34641 01615 13775 45871 | $\sqrt{3}/5$ |
| 0 .34657 35902 79972 65471 | $0.5 \ln 2$ |
| * | |
| 0 .34677 25319 90603 59240 | $[0, 1, 1, 2, 3, 5, \dots]^2$ |
| 0 .34782 60869 56521 73913 | $8/23$ |
| * | |
| 7 .34846 92283 49534 29459 | $\sqrt{54}$ |
| 3 .34861 21356 16703 66021 | root of $2e^x = 17x$ (other is 0.13459 ...) |
| * | |
| 0 .34903 03293 81918 84300 | $\sqrt{20} - \sqrt{17}$ |
| 0 .34906 58503 98865 91538 | $\pi/9$ |
| 0 .34999 35021 71292 95212 | $-\sin 10^6$ |
| 2 .35040 23872 87602 91376 | $e - 1/e = 2 \sinh 1$ |
| * | |
| 0 .35091 98071 78410 96756 | $e^{-\pi/3}$ |
| 2 .35133 46877 20757 48950 | $13^{1/3}$ |
| 0 .35142 33674 31279 86438 | $\sum_{n=0}^{\infty} (-1)^n/a_n$ |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|---|
| 0 .35157 75842 54142 92849 | $1/\sqrt{2.5(1+\sqrt{5})}$ |
| 0 .35173 37112 49195 82602 | root of $2x e^x = 1$ |
| * 0 .35189 95615 30427 73818 | $(1/\sqrt{2\pi}) \int_0^{\infty} e^{-x^2} dx$ |
| 2 .35240 96152 43247 32577 | $\cosh 1.5$ |
| 0 .35283 40286 15637 71915 | $J_2(2)$ |
| 4 .35284 06602 86750 27820 | $(\sqrt{21} + \sqrt{17})/2$ |
| 0 .35294 11764 70588 23529 | $6/17$ |
| 0 .35354 55804 23160 02178 | $(1/\sqrt{2\pi}) \int_0^3 e^{-x^2} dx$ |
| 0 .35355 33851 42449 95791 | $(1/\sqrt{2\pi}) \int_0^4 e^{-x^2} dx$ |
| 0 .35355 33905 92730 18808 | $(1/\sqrt{2\pi}) \int_0^5 e^{-x^2} dx$ |
| 0 .35355 33905 93273 76220 | $\sqrt{2}/4$ |
| 1 .35400 64007 72660 06008 | $\sqrt{66}/6$ |
| 3 .35410 19662 49684 54461 | $\sqrt{45}/2$ |
| 1 .35411 79394 26400 41695 | $\Gamma(2/3)$ |
| 0 .35424 86889 35409 40950 | $3 - \sqrt{7}$ |
| 0 .35433 59288 49530 63055 | $\int_0^\infty e^{-x^2}/(x+2) dx$ |
| 0 .35434 95620 01583 12406 | $231\pi/2048$ |
| 0 .35483 87096 77419 35484 | $11/31$ |
| 0 .35502 80538 87817 23926 | $1/(3^{2/3} \Gamma(2/3))$ |
| 2 .35530 13976 08119 90993 | root of $x^3 - 3x - 6 = 0$ |
| 0 .35542 76757 14664 20844 | $\phi_2/2$ |
| * 0 .35639 39586 92600 61690 | $(\sqrt{10} - \sqrt{6})/2$ |
| 1 .35646 59966 25053 62781 | $\sqrt{46}/5$ |
| 1 .35691 54488 56724 08350 | $\ln 2/(\ln 5 - \ln 3)$ |
| 2 .35702 26039 55158 41467 | $\sqrt{50}/3$ |
| 0 .35714 28571 42857 14286 | $5/14$ |
| 1 .35720 88082 97453 28576 | $2.5^{1/3}$ |
| 0 .35740 29561 81388 90307 | root of $e^x = 4x$ (other = 2.15329 ...) |
| 0 .35813 24532 32374 88877 | $(\sum_{n=0}^{\infty} 1/a_n)^{-1}$ |
| * 2 .35849 52830 14150 95283 | $\sqrt{89}/4$ |
| 0 .35877 06702 70572 22040 | $\arctan(3/8)$ |
| 4 .35889 89435 40673 55224 | $\sqrt{19}$ |
| * 2 .35973 04924 14696 88758 | $\pi^{0.75}$ |
| 2 .35988 56662 43177 55317 | $1 + 1/2 + 1/3 + 1/5 + \dots = \phi_1$ |
| 2 .36068 11980 32192 45209 | $\Gamma^2(1/4)/\pi^{3/2}$ |
| 3 .36091 52580 07192 26874 | $5e^{9/5}/9$ |
| * 0 .36132 86168 88222 58470 | $e^2 E_1(2)$ |
| 0 .36177 79900 13008 38384 | $d F(1,x)/dx$ at $x = -3$ |
| * 0 .36221 56886 99463 21088 | $-\log_{10} \log_{10} e$ |
| 0 .36235 77544 76673 57764 | $\cos 1.2$ |

(continued)

Table I (continued)

| | | Ref. |
|---------------------------------|---|------|
| 0 .36338 50893 55690 55387 | $-\cos 10^8$ | |
| 2 .36402 79824 81170 93098 | $F(1,\pi)$ | 36 |
| 0 .36412 81458 52072 80421 | $J_2(4)$ Bessel Function | |
| 1 .36422 54619 78741 66166 | $\sqrt{67}/6$ | |
| 1 .36437 63538 41841 34749 | $\pi \log_{10} e$ | |
| 0 .36437 88396 75906 25705 | $(\ln \pi)/\pi$ | |
| 2 .36474 94886 48077 56206 * | root of $2e^x = 9x$ (other is 0.29995 ...) | |
| 0 .36651 29205 81664 32701 * | $-\ln \ln 2$ | |
| 0 .36766 28826 05524 51799 | $J_2(5)$ Bessel Function | |
| 0 .36787 94411 71442 32160 | $1/e$ | |
| 0 .36842 10526 31578 94737 * | $7/19$ | |
| 1 .36930 63937 62915 28364 | $\sqrt{30}/4$ | |
| 1 .36943 84060 04565 82778 | $\arccos 0.2$ | |
| 1 .36948 32979 64199 59671 | $\sqrt{13} - \sqrt{5}$ | |
| 0 .36965 73409 11868 26123 | $\sqrt{18} - \sqrt{15}$ | |
| 0 .36982 33073 11909 85389 * | $\psi(3/2) + 1/3$ | |
| 2 .37014 31910 60928 31375 | $\sqrt{(C+1)/(C-1)}$ $C = [1, 2, 3, 4, 5, \dots]$ | 15 |
| 56 .37045 85539 06638 23277 | $bei(10)$ Bessel Function | |
| 0 .37084 77921 64711 15901 | $\cos 10^{11}$ | |
| 0 .37097 20637 60763 67779 | root of $16x^6 + 7x^4 + 6x^2 - 1 = 0$ | |
| 1 .37113 09200 80208 82499 | $\sqrt{17}/5$ | |
| 2 .37170 82451 26284 49900 * | $\sqrt{90}/4$ | |
| 0 .37250 74107 81366 63446 | root of $Ei(x) = 0$ | 9 |
| 0 .37267 79962 49964 94940 | $\sqrt{5}/6$ | |
| 0 .37328 21739 07395 22833 | $1/\Gamma(1/3)$ | |
| 134 .37338 07418 74111 12297 | $\cosh^2 \pi = 1 + \sinh^2 \pi$ | |
| 1 .37340 07669 45015 86086 | $\operatorname{arccot} 0.2$ | |
| 0 .37362 44539 87599 02917 * | $-\tan 10^6$ | |
| 0 .37395 58136 19202 28805 | A = Artin's Constant | 23 |
| 1 .37436 85418 72553 51661 | $\sqrt{17}/3$ | |
| 0 .37685 00100 12790 38197 | $J_0(3)$ Bessel Function | |
| 1 .37879 67001 29550 86014 | root of $x^3 + x - 4 = 0$ | |
| 0 .37893 73819 63011 99941 | $\sqrt{8} - \sqrt{6}$ | |
| 0 .37931 03448 27586 20697 * | $11/29$ | |
| 0 .37991 72668 14361 89294 | $\ln(8 \zeta(2)/9)$ | 8 |
| 0 .38012 77399 87263 37738 * | $-J_0(3.5)$ Bessel Function | |
| 2 .38047 61428 47616 66600 | $\sqrt{51}/3$ | |
| 0 .38050 63771 12364 88630 | $\arctan 0.4$ | |
| 0 .38095 23809 52380 95238 | $8/21$ | |
| 0 .38133 58492 41803 24872 | $-Y_2(2.5)$ Bessel Function | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|------|
| 0 .38144 82388 43719 16424 | $\sqrt{17} - \sqrt{14}$ | |
| 0 .38157 51577 57004 86164 | root of $F(1,x) = 2x$ (other is -1.92957 ...) | 36 |
| 0 .38196 60112 50105 15180 | $0.5(3 - \sqrt{5})$ | |
| 1 .38197 65978 85341 91706 | $\sqrt{6/\pi}$ | |
| 0 .38244 89237 97758 84396 | $Y_0(1.5)$ Bessel Function | |
| 3 .38297 57679 06237 49412 | root of $x^3 - 3x^2 - x - 1 = 0$ | |
| 2 .38423 10290 31371 72415 | $\prod_{n=1}^{\infty} (1 + 1/2^n)$ | |
| 0 .38439 67744 95639 08304 | $\arcsin(3/8)$ | |
| 1 .38443 73104 86345 80876 | $\sqrt{69}/6$ | |
| 0 .38461 53846 15384 61538 | $5/13$ | |
| 2 .38484 80035 42364 12288 | $\sqrt{91}/4$ | |
| 5 .38516 48071 34504 03125 | $\sqrt{29}$ | |
| 1 .38564 06460 55101 83482 | $\sqrt{48}/5$ | |
| * 1 .38629 43611 19890 61883 | $\ln 4$ | |
| 0 .38656 31585 47181 58989 | $63\pi/512$ | |
| * 0 .38709 67741 93548 38710 | $12/31$ | |
| 0 .38742 58867 22793 11067 | $(\sqrt{10}-2)/3$ | |
| 4 .38748 21936 96061 03020 | $\sqrt{77}/2$ | |
| 2 .38768 65533 92324 59890 | root of $x^3 + x - 16 = 0$ | |
| 23 .38803 11270 52999 54189 | $\sqrt{547}$ | |
| 2 .38842 34844 99338 55642 | root of $x^8 = 8$ | |
| * 2 .38889 44654 92981 75016 | $e^{0.25}/4(e^{0.25} - 1) - \ln(e^{0.25} - 1) - 1133278$ | |
| 0 .38894 87855 67334 57417 | $\Gamma(10.5) - 1133278 = 654729075 \sqrt{\pi}/1024 - 1133278$ | |
| 7 .38905 60989 30650 22723 | e^2 | |
| 961 .38919 35753 04437 03022 | π^6 | |
| 1 .38919 35965 39684 15069 | root of $x^3 + x^2 + x - 6 = 0$ | |
| 0 .38941 83423 08650 49167 | $\sin 0.4$ | |
| 0 .39004 92345 01306 48985 | $-\cot 10^8$ | |
| 0 .39038 82032 02207 56873 | $(\sqrt{17}-1)/8$ | |
| 2 .39105 48180 48783 25629 | $\sqrt{17} - \sqrt{3}$ | |
| 3 .39116 49915 62634 06953 | $\sqrt{46}/2$ | |
| 0 .39130 43478 26086 95652 | $9/23$ | |
| 1 .39194 10907 07505 48053 | $\sqrt{31}/4$ | |
| 0 .39269 90816 98724 15481 | $\pi/8$ | |
| 14 .39272 67228 65723 63138 | $1 + 1/2 + 1/3 + \dots + 1/1,000,000$ | |
| 0 .39285 71428 57142 85714 | $11/28$ | |
| * 1 .39443 33775 56792 57996 | $\sqrt{70}/6$ | |
| 0 .39444 87245 36010 70688 | $4 - \sqrt{13}$ | |
| 0 .39478 41760 43574 34475 | $\pi^2/25$ | |
| 1 .39493 40668 48226 43647 | $\pi^2/6 - 0.25$ | |

(continued)

Table I (continued)

| | | Ref. |
|--|---|-----------------------------|
| 1 .39561 24250 86089 52863 * 0 .39714 98098 63847 37229 2 .39791 57616 56359 77080 0 .39792 57105 57100 00525 * 2 .39842 81554 23879 21863 0 .39894 22804 01432 67794 0 .39908 99341 79057 52478 0 .39932 19809 06396 06250 2 .39935 72805 15467 66783 4 .40024 30133 65735 11543 0 .40068 56343 86531 42847 2 .40155 56406 45488 57327 6 .40312 42374 32848 68649 1 .40334 82475 75207 28868 0 .40365 26376 76805 92566 2 .40370 08503 09326 19541 1 .40435 82955 29393 10511 2 .40482 55576 95772 76862 * 1 .40628 75799 60534 69114 0 .40633 30539 39359 11055 12 .40654 03639 62564 30413 * 1 .40675 59567 34775 55654 0 .40729 34834 12598 57058 * 0 .40824 82904 63863 01637 0 .40846 43100 87026 14978 0 .40888 17310 69662 29812 97 .40909 10340 02437 23644 2 .40942 08396 53209 00458 1 .40954 18460 20915 94494 * 0 .40968 33335 64800 89409 1 .40994 34858 69908 37412 2 .41014 22641 75229 98613 0 .41018 84178 87511 88287 0 .41078 12905 02908 69548 1 .41080 61614 59816 38088 2 .41091 26902 48238 74894 9 .41115 92919 93750 16117 0 .41123 35167 12056 60912 0 .41151 68460 67488 01938 0 .41176 47058 82352 94118 | $e^{1/3}$ $-J_0(4)$ Bessel Function $\sqrt{23}/2$ $Y_1(4)$ Bessel Function root of $x^3 - 2x - 9 = 0$ $1/\sqrt{2\pi}$ $\log_{10} \sqrt{2\pi}$ $\cot 10^{11}$ root of $(x-2)e^x = x + 2$ See 2.27671 ... $54321/12345$ $\zeta(3)/3$ $\sqrt{2} [1, 1, 2, 3, 5, 8, \dots]$ $\sqrt{41}$ $\arccos 1/6$ $1 - e E_1(1)$ $\sqrt{52}/3$ $\sqrt{71}/6$ First zero of $J_0(x)$ root of $x^3 + 3x - 7 = 0$ $\sum_{n=1}^{\infty} (-1)^{n+1} \cdot n/a_n$ root of $x \tan x + 2 = 0$ $(1 - 1/2 + 1/3 - 1/5 + 1/8 \dots)^{-1}$ $\Gamma(8.5) - 14034 = 2027025 \sqrt{\pi}/256 - 14034$ $\sqrt{6}/6$ $\ln(8/(3\sqrt{\pi}))$ $\sqrt{15} - \sqrt{12}$ $\pi^{\frac{1}{4}}$ $(\ln 2)/(\ln \frac{1}{4} - \ln 3)$ $\pi - \sqrt{3}$ $\sqrt{7} - \sqrt{5}$ $\pi^2/7$ $14^{1/3}$ $Y_1(3.5)$ Bessel Function $\sin(e)$ root of $x = e^x \ln x$ $\sqrt{93}/4$ $2880/\pi^5$ $\pi^2/24$ $\arcsin 0.4$ 7/17 | 8 15,31 9 33 31 |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 0 .41230 86269 73911 29595 | |
| 148 .41315 91025 76603 42112 | |
| 0 .41329 21161 01594 33663 | |
| 0 .41379 31034 48275 86207 | |
| 1 .41421 35623 73095 04880 | |
| 0 .41447 21676 24423 30502 | |
| 0 .41506 89770 03974 90132 | |
| 4 .41588 04331 63923 42738 | |
| 7 .41619 84870 95662 94871 | |
| 0 .41742 43050 44159 99341 | |
| 2 .41839 91523 12290 46746 | |
| 0 .41859 04294 03409 71771 | |
| * .41893 85332 04672 74178 | |
| 0 .41935 48387 09677 41935 | |
| 0 .42054 77931 90782 49130 | |
| 0 .42105 26315 78947 36842 | |
| 0 .42135 03964 74857 43467 | |
| 3 .42158 89411 86242 56413 | |
| 0 .42191 54369 11800 23894 | |
| * .42278 43350 98467 13939 | |
| 0 .42307 69230 76923 07692 | |
| 0 .42331 08251 30748 00310 | |
| 1 .42349 36034 24238 78698 | |
| 0 .42374 93427 34875 39022 | |
| 0 .42377 72081 23757 59679 | |
| 2 .42383 99287 08164 50704 | |
| 1 .42400 06242 19588 52798 | |
| * .42503 25964 18541 53647 | |
| 2 .42598 87573 61622 12608 | |
| 0 .42630 27510 06862 74567 | |
| 2 .42670 32964 26839 42370 | |
| * .42744 87578 89531 26164 | |
| 0 .42768 66160 17928 79741 | |
| 0 .42772 79326 93978 22132 | |
| 3 .42782 73002 00522 06247 | |
| 0 .42812 47731 75747 04804 | |
| 1 .42828 56857 08569 99960 | |
| 0 .42857 14285 71428 57143 | |
| 403 .42879 34927 35122 60839 | |
| 0 .42911 32348 29972 11386 | |
| | 36 |
| | 44 |
| | 15 |
| | 10 |
| | 31 |
| | 35 |
| | 8 |

(continued)

Table I (continued)

| | | Ref. |
|---------------------------------|--|-------|
| 0 .42951 46206 07979 54432 | $35\pi/256$ | |
| 3 .42969 62891 58993 82743 | root of $e^x = 9x$ (other is 0.12603 ...) | |
| 1 .43022 68525 99502 03847 * | $\sqrt{10} - \sqrt{3}$ | |
| 0 .43082 53751 83302 36651 | $1.5/(e^{1.5} - 1)$ | |
| 7 .43131 37586 73811 35185 | $e^{1/2} \pi^{1.5}$ | 10 |
| 2 .43170 84074 16106 51465 | $24/\pi^2$ | |
| 0 .43233 20871 85902 86891 | [0, 2, 3, 5, 7, ...] all primes | 15 |
| 0 .43233 23583 81693 65405 | $0.5(1 - e^{-2})$ | |
| 1 .43234 40613 89161 01342 | [1, 2, 3, 5, 8, ...] | 15,31 |
| 1 .43240 47758 98300 31123 | root of $x e^x = 6$ | |
| 0 .43256 27555 31999 56908 | root of $3x e^x = 2$ | |
| 0 .43301 27018 92219 32338 | $\sqrt{3}/4$ | |
| 1 .43312 74267 22311 75832 | [1, 2, 3, 4, 5, ...] | 15 |
| 1 .43372 08778 40437 79529 | $\sqrt{74}/6$ | |
| 0 .43405 75068 91268 48697 | $[2, 3, 3, 2, 3, 3, 3, 3, \dots]^{-1}$ See 2.30384 ... | 15,17 |
| 0 .43425 85459 10664 88219 | $(\sqrt{13}-1)/6$ | |
| 0 .43429 44819 03251 82765 | $\log_{10} e$ | |
| 0 .43478 26086 95652 17391 * | 10/23 | |
| 0 .43607 82754 78500 59233 | root of $x \ln x + \ln(x+1) = 0$ | |
| 1 .43614 06616 34507 16496 | $\sqrt{33}/4$ | |
| 0 .43648 99739 78576 52056 * | $\psi(1.5) + 0.4$ | 10 |
| 2 .43669 85862 02240 97671 * | $\sqrt{95}/4$ | |
| 0 .43882 45731 17475 65491 | $(\pi - \ln 4)/4$ | |
| 15 .43888 73585 52583 18360 | $(1.5)^{6.75}$ | |
| 0 .44005 05857 44933 51596 | $J_1(1)$ Bessel Function | |
| 0 .44095 85518 44098 43175 | $\sqrt{7}/6$ | |
| 2 .44116 41831 83565 55795 | $F(-0.5, 2.5)$ | 36 |
| 5 .44137 08371 74265 71961 | $-Y_2(0.5)$ Bessel Function | |
| 5 .44139 80927 02653 55178 * | $\pi \sqrt{3}$ | |
| 2 .44175 99106 30499 56961 * | root of $x^3 + x - 17 = 0$ | |
| 1 .44222 05101 85595 71725 | $\sqrt{52}/5$ | |
| 1 .44224 95703 07408 38232 * | $3^{1/3}$ | |
| 4 .44288 29381 58366 24702 * | $\pi \sqrt{2}$ | |
| 0 .44311 34627 26379 00682 | $\sqrt{\pi}/4$ | |
| 1 .44326 87912 70373 10763 | root of $x^7 - x^6 - x^3 - 1 = 0$ | |
| 0 .44327 36152 95609 96112 | $\sqrt{13} - \sqrt{10}$ | |
| 1 .44337 56729 74064 41127 | $\sqrt{75}/6$ | |
| 1 .44363 54751 78810 34249 | $\operatorname{arcsinh} 2$ | |
| 4 .44409 72086 57794 42505 | $\sqrt{79}/2$ | |
| 0 .44451 87335 06706 55715 | $-Y_0(0.5)$ Bessel Function | |

(continued)

Table I (continued)

| | Ref. |
|---|------|
| 1 .44466 78610 09766 13366 | |
| 0 .44504 18679 12628 80858 | |
| * 1 .44546 84956 26831 22236 | |
| 0 .44605 90584 39617 22674 | |
| 1 .44639 74420 39316 22518 | |
| 1 .44644 13322 48135 18420 | |
| 0 .44654 26855 12635 94786 | |
| 0 .44721 35954 99957 93928 | |
| 2 .44730 48534 14308 61550 | |
| 2 .44758 07362 33658 2 | |
| 0 .44827 58620 68965 51724 | |
| 0 .44861 83018 67698 11904 | |
| 0 .44879 89505 12827 60549 | |
| 16 .44934 06684 82264 36472 | |
| 3 .44935 88902 59740 41595 | |
| 2 .44948 97427 83178 09820 | |
| 0 .45015 81580 78553 03478 | |
| 0 .45018 36112 94873 57304 | |
| 2 .45095 39280 15579 63062 | |
| 0 .45102 68117 96262 43254 | |
| * 0 .45161 29032 25806 45161 | |
| 3 .45196 75234 71160 35879 | |
| 3 .45217 62772 77915 21187 | |
| 0 .45224 74200 41065 49851 | |
| * 16 .45262 77655 07230 22474 | |
| 1 .45296 63145 13557 85075 | |
| 0 .45339 76515 16403 76764 | |
| 0 .45359 61214 25577 38777 | |
| 1385 .45573 13670 11089 14091 | |
| 0 .45593 81277 65996 23677 | |
| 1 .45602 19778 56103 65422 | |
| 1 .45616 42461 35908 46097 | |
| 1 .45679 10310 46906 86919 | |
| 0 .45685 02517 51856 64849 | |
| * 1 .45773 79737 11325 11772 | |
| 0 .45844 87433 68190 36061 | |
| * 0 .45862 91841 94307 48350 | |
| 0 .45867 51453 87081 89102 | |
| 2 .45871 41759 99624 64287 | |
| 2 .45876 97838 34321 83638 | |
| e ^{1/e} | |
| root of $x^3 - x^2 - 2x + 1 = 0$ | |
| arccos (1/8) | |
| J ₂ (2.5) Bessel Function | |
| [1, 2, 4, 6, 10, ...] terms = p - 1, p = primes | 15 |
| arccot (1/8) | |
| root of $2e^x = 7x$ (other = 1.88859 ...) | |
| 1/√5 | |
| Chi(1) + ln 5 | 9 |
| -ζ(2/3) | 8 |
| 13/29 | |
| π ² /22 | |
| π/7 | |
| 5π ² /3 | |
| [3,2,4,2,3,2,4,2,4,2,3,2,4,2,4,2,3,2,4,2,4,2,3,2, ...] | 20 |
| √6 | |
| √2/π | |
| root of cos x = 2x | |
| root of x ^x = 9 | |
| arccos 0.9 | |
| 14/31 | |
| √2.5 + √3.5 | |
| 10000 - 3182π | |
| 1/2 ² + 1/3 ² + 1/5 ² + ... all primes | |
| ʃ ₀ ² e ^{x²} dx | |
| √19/3 | |
| root of x ³ + 2x - 1 = 0 | |
| cos 1.1 | |
| 10 ^π | |
| e ^{-π/4} | |
| √53/5 | |
| root of x ³ + 2x - 6 = 0 | |
| a(1,2) | 37 |
| 0.5(√7 - √3) | |
| √34/4 | |
| 2e ² /(e ² -1) - ln(e ² -1) | |
| J ₂ (3.5) Bessel Function | |
| 1 - ln(e-1) | |
| root of x tan x + 2 = 0 | |
| √15 - √2 | |

(continued)

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Table I (continued)

| | | Ref. |
|------------------------------|---|------|
| 22 .45915 77183 61045 47343 | π^e | |
| 1 .45945 53124 53932 72691 | $\arccos(1/9)$ | |
| 1 .46035 45088 09586 81289 | $-\zeta(0.5)$ | 8 |
| * 0 .46153 84615 38461 53846 | 6/13 | |
| 9 .46155 77024 83518 21447 | $e^{3.5}/3.5$ | |
| 1 .46163 21449 68362 34126 | root of $\psi(x) = 0$ This root makes $\Gamma(x)$ a minimum | |
| 0 .46199 46090 07087 84991 | $\Gamma(9.5) - 119292 = 34459425 \sqrt{\pi}/512 - 119292$ | |
| 2 .46204 47875 87410 22209 | root of $x^3 - 2x - 10 = 0$ | |
| 0 .46211 71572 60009 75850 | $\tanh 0.5$ | |
| 36 .46215 96072 07911 77099 | π^{π} | |
| 1 .46216 36149 76201 27686 | $4\pi^2/27$ | |
| 2 .46221 44504 49026 18044 | $\sqrt{77}/4$ | |
| * 1 .46249 40645 65353 67673 | $\sqrt{77}/6$ | |
| 1 .46265 17459 07181 60880 | $\int_0^1 e^{-x^2} dx$ | |
| * 0 .46353 08278 50189 08581 | $-\tan 10^7$ | |
| 0 .46364 76090 00806 11621 | $\arctan 0.5$ | |
| 3 .46410 16151 37754 58705 | $\sqrt{12}$ | |
| 0 .46428 57142 85714 28571 | 13/28 | |
| 1 .46459 18875 61523 26302 | $\pi^{1/3}$ | |
| * 0 .46552 49803 35071 35839 | $(f(2.5))^{-1}$ | 44 |
| 0 .46619 40770 35411 61438 | $\pi^{-2/3}$ | |
| 2 .46621 20743 30470 10149 | $15^{1/3}$ | |
| 4 .46652 82234 71357 35049 | $\sqrt{4.5} + \sqrt{5.5}$ | |
| 2 .46740 11002 72339 65471 | $\pi^2/4$ | |
| 1 .46779 92676 22069 54092 | $10^{1/6}$ | 31 |
| 0 .46784 58690 52490 32381 | $0.5(1 + \sqrt{5})(1/2 - 1/3 + 1/5 - 1/8 \dots)$ | |
| * 1 .46933 57725 53856 33866 | $e^{2\gamma/3}$ | 10 |
| 2 .46941 35036 29365 74181 | root of $d F(1,-x)/dx = 0$ See 3.61738 ... | 36 |
| 1 .46969 38456 69906 85892 | $\sqrt{54}/5$ | |
| 0 .46998 11619 56636 12471 | $\pi^2/21$ | |
| 1 .47032 41557 02718 44598 | $\tan 1000$ | |
| 0 .47058 82352 94117 64706 | $8/17$ | |
| 1 .47062 89056 33336 82289 | $\arccos 0.1$ | |
| 1 .47112 76743 03734 59185 | $\operatorname{arccot} 0.1$ | |
| 0 .47140 45207 91031 68293 | $\sqrt{2}/3$ | |
| 1 .47147 23926 70243 06919 | $-Y_1(0.5)$ Bessel Function | |
| * 1 .47196 01443 87974 47579 | $\sqrt{78}/6$ | |
| 2 .47206 61623 65220 98290 | $\sqrt{55}/3$ | |
| 4 .47213 59549 99579 39282 | $\sqrt{20}$ | |
| 0 .47368 42105 26315 78947 | 9/19 | |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 3 .47401 94769 66354 50545 | |
| 2 .47468 04362 36304 46261 | |
| * 2 .47487 37341 52916 33540 | |
| 4 .47522 91068 38273 16796 | |
| 0 .47619 04761 90476 19048 | |
| 0 .47693 62762 04469 87338 | |
| * 0 .47712 12547 19662 43730 | |
| 5 .47722 55750 51661 13457 | |
| 1 .47735 43145 53069 95932 | |
| * 0 .47826 08695 65217 39130 | |
| 1 .47901 99457 74904 01064 | |
| * 0 .47942 55386 04203 00027 | |
| 1 .47976 15487 57481 53375 | |
| 0 .48045 30139 18201 42467 | |
| * 6 .48074 06984 07860 23097 | |
| 0 .48121 18250 59603 44750 | |
| 1 .48136 57362 19264 80835 | |
| * 0 .48275 86206 89655 17241 | |
| 1 .48323 96974 19132 58974 | |
| 7 .48331 47735 47882 77117 | |
| 0 .48383 77646 81979 96327 | |
| 0 .48387 09677 41935 48387 | |
| 1 .48519 19863 12126 29587 | |
| * 7 .48547 08605 50344 91266 | |
| 0 .48591 55973 33256 66706 | |
| 0 .48609 12605 85891 07691 | |
| 1 .48736 62401 84281 61436 | |
| 2 .48746 85927 66549 88684 | |
| 0 .48750 60250 87510 69153 | |
| 0 .48819 76656 09209 75151 | |
| 1 .48830 22318 99033 38630 | |
| 1 .48930 65462 65709 14304 | |
| 14 .48944 22298 58252 34822 | |
| 0 .48989 79485 56635 61964 | |
| 0 .49012 90717 34273 59586 | |
| 1 .49071 19849 99859 79761 | |
| 0 .49087 38521 23405 19351 | |
| 1 .49093 69093 52736 90786 | |
| 0 .49137 86798 43991 45546 | |
| 2 .49203 33011 71816 56952 | |

(continued)

Table I (continued)

| | Ref. |
|----------------------------|------|
| 4 .49340 94579 09064 17531 | |
| 0 .49348 02200 54467 93094 | |
| 2 .49365 56137 26098 89956 | |
| 1 .49379 71861 38073 03960 | |
| 2 .49443 82578 49294 25706 | |
| 0 .49457 64013 48641 23503 | |
| 1 .49534 87812 21220 54191 | |
| 5 .49534 91549 29522 86148 | |
| 0 .49626 90495 18538 07940 | |
| 4 .49655 61056 01921 67781 | |
| 1 .49666 29547 09576 55423 | |
| 0 .49709 41024 64274 03801 | |
| 0 .49714 98726 94133 85435 | |
| 0 .49766 11325 09476 36708 | |
| 0 .49770 03024 70745 34747 | |
| 0 .49788 05081 37478 38330 | |
| 0 .49807 03596 15231 88783 | |
| 1 .49930 68769 09376 08469 | |
| 0 .49998 89547 51500 70728 | |
| 0 .49999 99922 91371 04986 | |
| 0 .49999 99999 99231 27010 | |
| 0 .50024 54622 66794 48360 | |
| 0 .50049 31182 86552 25606 | |
| 0 .50098 33003 45343 76082 | |
| 0 .50099 41779 22889 83685 | |
| 2 .50156 74333 54975 64147 | |
| 3 .50162 07455 42949 75689 | |
| 1 .50197 52682 68611 49886 | |
| 0 .50201 70551 78165 51178 | |
| 0 .50318 85471 52764 36295 | |
| 0 .50401 71699 30912 40288 | |
| 1 .50408 01783 84671 35969 | |
| 0 .50408 30082 64222 74070 | |
| 0 .50413 82583 61655 36083 | |
| 2 .50424 48144 98221 11118 | |
| 0 .50536 05102 84157 30697 | |
| 1 .50558 94092 74151 68917 | |
| 3 .50567 48357 14440 56399 | |
| 1 .50611 76684 31800 47273 | |
| 2 .50618 41455 88769 25629 | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|------|
| 0 .50636 56411 09758 79366 | -sin 100 | |
| 2 .50662 82746 31000 50242 | $\sqrt{2\pi}$ | |
| 0 .50702 606 | $\eta(1/32)$ | 8 |
| 1 .50825 55649 98405 22843 | arccos (1/16) | |
| 0 .50866 03916 42004 13646 | root of $x^6 - 2x + 1 = 0$ | |
| 1 .50869 15494 46032 13410 | $0.25 - \ln(e^{0.25} - 1)$ | |
| 2 .50917 84786 58056 78201 | $\cosh(\pi/2)$ | |
| 1 .50923 08563 56236 10443 | $\sqrt{82}/6$ | |
| 1 .50996 68870 54149 93945 | $\sqrt{57}/5$ | |
| 0 .51037 56726 49745 11960 | $J_0(2)$ Bessel Function | |
| 2 .51058 98795 50407 85288 | $\sqrt{18} - \sqrt{3}$ | |
| 0 .51182 76717 35918 12875 | $J_0(1.5)$ Bessel Function | |
| 1 .51193 88208 47815 38902 | arccos (1/17) | |
| 1 .51213 45516 57842 47390 | root of $e^x = 3x$ (other is 0.61906 ...) | |
| 1 .51274 53266 18328 62402 | root of $x^3 + 3x - 8 = 0$ | |
| 9 .51436 44542 22584 92968 | $\cot 6^\circ = (3\sqrt{3} + \sqrt{15} + 2\sqrt{10} - 2\sqrt{5} + \sqrt{50} - 10\sqrt{5})/2$ | |
| 1 .51521 21535 13979 14314 | arccos (1/18) | |
| 0 .51538 82032 02207 56873 | $\sqrt{17}/8$ | |
| * 1 .51598 02276 92820 58968 | root of $x^3 + x - 5 = 0$ | |
| 0 .51612 90322 58064 51613 | $16/31$ | |
| 0 .51652 63491 03788 74150 | $\sqrt{10} - \sqrt{7}$ | |
| 2 .51661 14784 23583 23241 | $\sqrt{57}/3$ | |
| 0 .51724 13793 10344 82759 | $15/29$ | |
| * 0 .51755 43501 53671 25670 | $\sqrt{17} - \sqrt{13}$ | |
| 0 .51763 80902 05041 52470 | $\sqrt{1.5} - \sqrt{0.5}$ | |
| * 0 .51791 32265 77134 47378 | $(1 - e^{-1.5})/1.5$ | |
| 1 .51814 04185 33326 82777 | arccos (1/19) | |
| 1 .51829 44859 37831 25971 | $3.5^{1/3}$ | |
| 1 .51840 55965 24049 81366 | $\sqrt{83}/6$ | |
| 0 .51879 00636 75884 22191 | root of $x^5 - 2x + 1 = 0$ | |
| * 0 .51945 28632 15229 40099 | $\pi^2/19$ | |
| 2 .51984 20997 89746 32953 | $16^{1/3}$ | |
| 5 .52007 81102 86310 64960 | second zero of $J_0(x)$ | |
| * 1 .52069 06325 74554 92225 | $\sqrt{37}/4$ | |
| 1 .52077 54699 89126 60457 | arccos (1/20) | |
| 0 .52109 53054 93747 36162 | sinh 0.5 | |
| 1 .52137 97068 04567 56960 | root of $x^3 - x - 2 = 0$ | |
| 1 .52173 16 | C | |
| 0 .52173 91304 34782 60870 | 12/23 | |
| 1 .52315 46211 72781 65713 | $\sqrt{58}/5$ | |

(continued)

Table I (continued)

| | Ref. |
|--|---------------------------------------|
| 1 .52315 92641 70493 48853 0 .52356 67081 13848 07462 0 .52359 87755 98298 87308 0 .52380 95238 09523 80952 1 .52434 52049 84144 36912 * 2 .52481 55568 58922 23600 * 2 .52498 10877 17666 92350 1 .52532 61143 77899 46695 * 0 .52631 57894 73684 21053 0 .52704 62766 94729 88867 1 .52730 43560 04780 80022 1 .52752 52316 51946 66886 4 .52769 25690 68708 31329 4 .52786 29864 86817 06573 0 .52786 40450 00420 60718 1 .52911 75943 72318 75404 0 .52915 02622 12918 11810 0 .52941 17647 05882 35294 0 .52995 53906 93618 99119 1 .53047 18187 94483 45463 * 1 .53078 56524 40907 69301 1 .53101 41215 40153 55031 * 1 .53208 88862 37956 07040 1 .53218 25076 09544 00267 1 .53232 52993 87568 29687 1 .53375 08169 82804 61014 1 .53503 20356 69139 50246 1 .53507 44443 96817 82381 * 1 .53537 05088 36252 98503 0 .53539 81633 97448 30962 3 .53553 39059 32737 62200 0 .53571 42857 14285 71429 3 .53589 46654 95364 37098 0 .53589 83848 62245 41295 1 .53622 91495 73721 63515 1 .53630 67308 33217 79155 1 .53659 07428 82147 88500 1 .53745 68175 33594 53224 * 0 .53807 95069 12768 41914 0 .53846 15384 61538 46154 | 38 36 9 15 31 36 35 |

(continued)

Table I (continued)

| | Ref. |
|---|------|
| 1 .53853 26651 26649 65739 | |
| 2 .53859 10352 87969 42855 | |
| 1 .53884 17685 87626 70129 | |
| 0 .53921 29 | |
| 1 .53933 89262 36506 33160 | |
| 8 .53973 42226 73567 06546 | |
| 0 .54030 23058 68139 71740 | |
| * 0 .54041 95002 70584 15544 | |
| 1 .54083 64694 62489 44560 | |
| 0 .54104 42246 35181 69847 | 35 |
| 1 .54110 35007 42244 11256 | |
| 0 .54132 48546 12918 10898 | |
| * 1 .54235 10453 56920 04828 | |
| 2 .54264 13577 73526 42429 | |
| 1 .54308 06348 15243 77848 | |
| 2 .54357 84374 41913 21748 | |
| 0 .54368 90126 92076 36157 | |
| 0 .54382 36621 19049 15584 | 36 |
| 1 .54387 34439 71181 14165 | |
| 0 .54402 11108 89369 81340 | |
| * 1444 .54512 28927 14154 71376 | |
| 1 .54560 30825 82617 29209 | |
| 0 .54584 34494 48699 56424 | |
| 2 .54647 90894 70325 37230 | |
| 0 .54831 13556 16075 47882 | |
| 0 .54838 70967 74193 54839 | |
| * 11 .54873 93572 57748 37798 | |
| 1 .54919 33384 82966 75407 | |
| 0 .54930 61443 34054 84570 | |
| 2 .54950 97567 96392 41501 | |
| 0 .54953 93129 81644 82234 | |
| 7 .54983 44352 70749 69724 | |
| * 2 .55049 02431 85492 96762 | |
| 0 .55051 02572 16821 90180 | |
| 3 .55051 30347 23369 42431 | |
| 0 .55132 88954 21792 04951 | |
| 0 .55172 41379 31034 48276 | |
| 0 .55277 07983 92566 64152 | |
| * 0 .55329 47556 65112 21720 | |
| 2 .55371 26827 48209 05294 | |
| arccos (1/31) | |
| $\sqrt{58}/3$ | |
| $\sin 36^\circ + \cos 18^\circ = 0.5\sqrt{5} + \sqrt{20}$ | |
| $2(1/2 - 1/3 + 1/5 - 1/7 + \dots)$ all primes | |
| $(6/\pi)^{2/3}$ | |
| πe | |
| $\cos 1$ | |
| $\arctan 0.6$ | |
| $H(1,2)$ | 38 |
| $e^{-x^2} \int_0^x e^{t^2} dt$ at $x = 0.92413 \dots$ | 35 |
| $\sqrt{38}/4$ | |
| $\ln(e-1)$ | |
| $\cot 10$ | |
| root of $e^x = 5x$ (other is 0.25917 ...) | |
| $\cosh 1$ | |
| root of $x^3 + x - 19 = 0$ | |
| root of $x^3 + x^2 + x - 1 = 0$ | |
| $0.5a^2((1+x)F(1,x))/dx^2$ at $x = -1$ | |
| $e^{\log_{10}e}$ | |
| $-\sin 10$ | |
| $\int_0^3 e^{x^2} dx$ | |
| $\sqrt{86}/6$ | |
| $\sin 10^9$ | |
| $8/\pi$ | |
| $\pi^2/18$ | |
| $17/31$ | |
| $\sinh \pi$ | |
| $\sqrt{60}/5$ | |
| $\operatorname{arctanh} 0.5 = 0.5 \ln 3$ | |
| $\sqrt{26}/2$ | |
| $-\ln \gamma$ | 10 |
| $\sqrt{57}$ | |
| $F(2,3)$ | 36 |
| $3 - \sqrt{6}$ | |
| $(e-1)/\sqrt{e^2 - 3e + 1}$ | |
| $\sqrt{3}/\pi$ | |
| $16/29$ | |
| $\sqrt{11}/6$ | |
| $(\ln 2)/(\ln 7 - \ln 2)$ | |
| $2^{1/4} \cdot 3^{1/9} \cdot 4^{1/16} \cdot 5^{1/25} \dots$ | |

(continued)

Table I (continued)

| | | Ref. |
|---|---|--------|
| 2 .55414 92186 00773 18048 * 0 .55448 7385 | root of $x^3 - 3x - 9 = 0$ $\eta(0.25)$ | 8 |
| 1 .55456 31755 14802 50759 | $\sqrt{87}/6$ | |
| 4 .55521 67895 72149 44097 | $\sqrt{83}/2$ | |
| 2 .55560 46121 00820 61525 | root of $x^x = 11$ | |
| 0 .55635 85558 52017 03606 * 1 .55740 77246 54902 23051 | $\sqrt{15} + \sqrt{11}$ $\tan 1$ | |
| 6 .55743 85243 02000 65234 | $\sqrt{43}$ | |
| 0 .55793 65079 10099 64199 * 0 .55834 96378 11241 84656 | $J_1(1.5)$ Bessel Function $-\tan 10^{10}$ | |
| 0 .55859 93153 43562 43597 | $\arctan(5/8)$ | |
| 0 .55901 69943 74947 42410 | $\sqrt{5}/4$ | |
| 0 .55938 10750 43469 93054 | $\log_{10} \Gamma(1/4)$ | |
| 1 .55961 04694 62369 34997 | root of $x^x = 2$ | |
| 2 .56038 19159 56202 72526 | $\sqrt{59}/3$ | |
| 1 .56112 48985 32504 71838 | $\sqrt{5} [0, 1, 2, 3, 5, 8, \dots]$ | 15, 31 |
| 1 .56124 94995 99599 55146 | $\sqrt{39}/4$ | |
| 0 .56145 94835 66885 16982 * 1 .56204 99351 81330 87883 | e^{-Y} $\sqrt{61}/5$ | 10 |
| 0 .56237 90762 90702 99108 | $\cos 1000$ | |
| 2 .56341 65572 58579 75413 | $-\text{ber}(4)$ Bessel Function | |
| 1 .56347 19199 41143 18486 * 0 .56356 92042 25515 64249 | $\sqrt{22}/3$ root of $\cos x = 1.5x$ | |
| 2 .56377 89067 28377 25790 | $-\tan 10^8$ | |
| 0 .56418 95835 47756 28695 | $1/\sqrt{\pi}$ | |
| 0 .56464 24733 95035 35720 * 0 .56521 73913 04347 82609 | $\sin 0.6$ 13/23 | |
| 0 .56568 54249 49238 01952 * 5 .56631 60017 80235 20425 | $\sqrt{8}/5$ $\Gamma(1/6)$ | |
| 0 .56714 32904 09783 87300 | root of $xe^x = 1$ | |
| 5 .56776 43628 30021 92212 | $\sqrt{31}$ | |
| 5 .56832 79968 31707 84528 * 0 .56886 44810 05783 10728 | $\pi^{1.5}$ $\sqrt{0.1(1 + \sqrt{5})}$ | |
| 1 .56894 64030 52382 26735 | root of $x^3 + 2x - 7 = 0$ | |
| 0 .56982 33073 11909 85389 | $\psi(3/2) + 8/15$ | |
| 6 .56992 96911 76507 03401 * 1 .57014 73121 96054 36291 | $\sum_{n=1}^{100} 1/n$ root of $x^5 - x^4 - x^2 - 1 = 0$ | |
| 3 .57071 42142 71424 99900 | $\sqrt{51}/2$ | |
| 1 .57079 63267 94896 61923 | $\pi/2$ | |
| 2 .57128 15906 58235 35545 | $17^{1/3}$ | |

(continued)

Table I (continued)

| | | Ref. |
|---------------------------------|---|------|
| 0 .57142 85714 28571 42857 | 4/7 | |
| 0 .57175 28338 25277 7 | $\eta(1/3)$ | 8 |
| 1 .57233 01886 76100 63522 * | $\sqrt{89}/6$ | |
| 1 .57443 38335 77736 48867 | $\coth 0.75$ | |
| 1 .57480 15748 02362 20394 | $\sqrt{62}/5$ | |
| 5 .57494 15247 60880 62397 * | e^{-1} | |
| 1 .57671 32048 60013 67265 | $(7 - \ln 2)/4$ | |
| 0 .57672 48077 56873 38720 | $J_1(2)$ Bessel Function | |
| 0 .57692 30769 23076 92308 | $15/26$ | |
| 3 .57715 20639 57297 21841 | root of $e^x = 10x$ (other is 0.11183 ...) | |
| 0 .57721 56649 01532 86061 | γ Euler's constant | 10 |
| 0 .57735 02691 89625 76451 | $\tan 30^\circ = \sqrt{3}/3$ | |
| 4 .57736 52334 26696 54692 | $(\sqrt{23} + \sqrt{19})/2$ | |
| 0 .57739 54235 01385 16941 | $10^9 - 318309886\pi$ | |
| 0 .57792 17972 67618 74780 | $1/1.2 + 1/3.5 + 1/8.13 + \dots$ | 31 |
| 1 .57822 04639 37299 40411 | root of $x^3 + x^2 + x - 8 = 0$ | |
| 17 .57848 01752 54923 78127 | $\pi^2 e^Y$ | 10 |
| 0 .57894 73684 21052 63158 | $11/19$ | |
| 0 .57937 97266 05562 05358 * | $\sqrt{14} - \sqrt{10}$ | |
| 0 .58056 49647 69962 27170 | $\pi^2/17$ | |
| 0 .58064 51612 90322 58065 | $18/31$ | |
| 1 .58113 88300 84189 66600 | $\sqrt{2.5}$ | |
| 0 .58197 67068 69326 42439 | $1/(e-1)$ | |
| 2 .58198 88974 71611 25679 | $\sqrt{60}/3$ | |
| 0 .58224 05264 65012 50590 | $\pi^2/12 - 0.5(\ln 2)^2$ | |
| 4 .58257 56949 55840 00659 | $\sqrt{21}$ | |
| 0 .58281 16438 65811 38604 | root of $e^{-1.5x} = 1 - x$ | |
| 0 .58312 18080 61637 56028 | $28(2)/\pi$ | 8 |
| 1 .58457 39827 86522 55559 | $\sqrt{11} - \sqrt{3}$ | |
| 1 .58496 25007 21156 18145 | $(\ln 3)/\ln 2$ | |
| 1 .58552 78323 75576 69498 | $F(1,2)$ | 36 |
| 1 .58553 09969 09800 70521 | root of $3x^3 - 5x^2 + 13x - 20 = 0$ | |
| 0 .58578 64376 26904 95120 | $2 - \sqrt{2}$ | |
| 18 .58591 27846 36851 18073 | $\pi \sqrt{35}$ | |
| 0 .58620 68965 51724 13793 * | $17/29$ | |
| 0 .58721 39151 56929 07668 | $-\tan 100$ | |
| 1 .58740 10519 68199 47475 | $4^{1/3}$ | |
| 1 .58745 07866 38754 35430 | $\sqrt{63}/5$ | |
| 0 .58778 52522 92473 12917 | $\sin 36^\circ = 0.25 \sqrt{10} - 2 \sqrt{5}$ | |
| 0 .58823 52941 17647 05882 | $10/17$ | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|---|-------|
| 0 .58887 39525 48933 50767 | [0,1,1,2,3,5, ...] | 15,31 |
| 0 .58904 86225 48086 23221 | $3\pi/16$ | |
| 1 .58952 08879 65480 63190 | $\sqrt{5} (1 - 1/2 + 1/3 - 1/5 + 1/8 \dots)$ | 31 |
| 1 .58989 86690 28242 74859 | $\sqrt{91}/6$ | |
| 5 .59016 99437 49474 24102 | $2.5 \sqrt{5}$ | |
| 0 .59061 61091 49641 24974 | $1/(1 + \ln 2)$ | |
| 0 .59063 68546 37329 06338 | $\sum_{n=1}^{\infty} (n+1)/((n+1)!)^2$ | |
| * 2 .59170 41241 91859 43632 | root of $x^3 + x - 20 = 0$ | |
| 11 .59195 32755 21520 62775 | $\cosh \pi$ | |
| 0 .59235 91472 46400 40119 | $\sqrt{8} - \sqrt{5}$ | |
| 0 .59238 48471 88388 98367 | $e^{-\pi/6}$ | |
| 1 .59245 04340 36251 38167 | $\sqrt{6} - \sqrt{12}$ | |
| 0 .59263 27182 01636 19710 | Lehmer's constant | 14 |
| 4 .59299 01586 00667 35510 | $e^{2,4}/2,4$ | |
| * 1 .59362 42600 40040 09232 | root of $e^{-x} = 1 - 0.5x$ | |
| 3 .59480 40682 81408 36715 | $(\sqrt{11} + \sqrt{15})/2$ | |
| * 0 .59519 05728 67755 35181 | $\ln(\pi\gamma)$ | |
| 0 .59607 16379 83321 52311 | root of $x^3 + 3x - 2 = 0$ | |
| * 0 .59634 73623 23194 07434 | $eE_1(1)$ | 9 |
| 1 .59688 93760 54694 55590 | $\sqrt{18} - \sqrt{7}$ | |
| 2 .59807 62113 53315 94029 | $\sqrt{27}/2$ | |
| 54 .59815 00331 44239 07811 | e^4 | |
| 1 .59861 05077 70906 51387 | $\sqrt{23}/3$ | |
| 0 .59907 01173 67796 10372 | $\pi/2\tilde{\omega} = \Gamma^2(3/4)/\sqrt{2\pi}$ | |
| 0 .59915 26087 92162 50764 | $\sqrt{20} - \sqrt{15}$ | |
| 1 .60078 10593 58212 17162 | $\sqrt{41}/4$ | |
| 0 .60092 52125 77331 54885 | $\sqrt{13}/6$ | |
| 0 .60119 12609 63894 94217 | $dF(1,x)/dx \text{ at } x = -4$ | 36 |
| 0 .60205 99913 27962 39043 | $\log_{10} 4$ | |
| * 0 .60318 05544 88537 01423 | $\tanh(2\pi/9)$ | |
| 2 .60341 65586 35551 46471 | $\sqrt{61}/3$ | |
| 0 .60489 86434 21630 37025 | $\eta(0.5)$ | 8 |
| 0 .60513 36525 03344 58174 | $\int_0^\infty e^{-x^2}/(1+x)dx$ | |
| * 3 .60555 12754 63989 29312 | $\sqrt{13}$ | |
| 1 .60581 19963 20177 59603 | root of $xe^x = 8$ | |
| 0 .60641 69900 43560 87078 | $1/(2(1/2 + 1/5 + 1/13 \dots))$ | 31 |
| 0 .60653 06597 12633 42360 | $1/\sqrt{e}$ | |
| 0 .60714 28571 42857 14286 | $17/28$ | |
| 1 .60727 51268 32159 16596 | $\sqrt{93}/6$ | |
| 0 .60762 52185 10765 09842 | $(\sqrt{7} + 1)/6$ | |

(continued)

Table I (continued)

| | | Ref. |
|---------------------------------|--|-------|
| 0 .60797 09085 73584 76979 * | H(1,0) | 38 |
| 0 .60869 56521 73913 04348 | 14/23 | |
| 1 .60899 78099 88855 61183 | $\sqrt{x+2}$ x = [0,1,1,2,3,5, ...] | 15,31 |
| 1 .60943 79124 34100 37460 * | ln 5 | |
| 1 .60969 54940 16668 75627 | root of $x^3 + 3x - 9 = 0$ | |
| 2 .60975 60975 60975 60976 | 321/123 | |
| 4 .60977 22286 46443 65500 * | $\sqrt{85}/2$ | |
| 0 .61072 59643 89208 61654 * | arctan 0.7 | |
| 0 .61123 87023 76889 49819 * | $-\sin 10^{12}$ | |
| 0 .61237 24356 95794 52455 | $\sqrt{6}/4$ | |
| 1 .61245 15496 59709 93047 * | $\sqrt{65}/5$ | |
| 2 .61288 78647 17514 75441 | root of $x^3 - 3x - 10 = 0$ | |
| 0 .61290 32258 06451 61290 | 19/31 | |
| 0 .61370 56388 80109 38117 | $2 - \ln 4$ | |
| 3 .61495 04270 87530 62968 | root of $e^x = 10x + 1$ | |
| 0 .61538 46153 84615 38462 | 8/13 | |
| 7 .61577 31058 63908 28566 | $\sqrt{58}$ | |
| 1 .61589 32858 05443 00469 | $\sqrt{94}/6$ | |
| 0 .61685 02750 68084 91368 | $\pi^2/16$ | |
| 0 .61724 15567 66732 16665 | $\sqrt{19} - \sqrt{14}$ | |
| 3 .61738 26539 27090 07757 | $-F(1,x)$ at $x = -2.46941 \dots$ (maxF) | 36 |
| 0 .61740 81041 90682 66648 | $-Y_2(2)$ Bessel Function | |
| 5 .61757 87461 32480 13695 | $(C+1)/(C-1)$ C = [1,2,3,4, ...] | 15 |
| 1 .61803 39887 49894 84820 | $(1 + \sqrt{5})/2$ $\tau = \text{golden mean}$ | |
| 2 .61836 35541 01885 64632 | f(2) | 44 |
| 1 .61899 31866 06232 86241 | $\sqrt{\pi^2 + 16}/\pi$ | |
| 0 .61904 76190 47619 04762 | 13/21 | |
| 0 .61906 12867 35945 11215 | root of $e^x = 3x$ (other is 1.51213 ...) | |
| 1 .62018 51746 01965 05774 | $\sqrt{42}/4$ | |
| 0 .62068 96551 72413 79310 | 18/29 | |
| 2 .62071 56825 36181 16795 | root of $F(1,x) = 2$ | 36 |
| 2 .62074 13942 08896 60714 | $18^{1/3}$ | |
| 1 .62113 89382 77404 34310 | $16/\pi^2$ | |
| 0 .62144 96242 35813 35764 | $\int_{\infty}^{\infty} e^{-x} dx / (1 + x^2)$ | |
| 0 .62160 99682 70664 45648 | cos 0.9 | |
| 2 .62205 75542 92119 81046 * | $\tilde{\omega} = \Gamma^2(1/4)/\sqrt{8\pi}$ lemniscate constant | 1 |
| 0 .62322 52401 40230 51339 | $1 - 1/3 - 1/5 + 1/7 + 1/9 \dots = (\ln(1 + \sqrt{2}))/\sqrt{2}$ | 4 |
| 5 .62341 32519 03490 80395 * | $10^{0.75}$ | |
| 0 .62360 95644 62323 56426 | $\sqrt{14}/6$ | |
| 0 .62432 99885 43550 87099 | $\int_{\infty}^{\infty} \exp(-E_L(x) - x) dx$ | 9 |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|---|
| 1 .62446 57241 34827 31781 | $\sqrt{95}/6$ |
| 2 .62466 92913 37270 33989 | $\sqrt{62}/3$ |
| 1 .62480 76809 27192 07209 | $\sqrt{66}/5$ |
| 5 .62556 05480 42800 00945 | $10^{12} - 318309886182 \pi$ |
| 3 .62560 99082 21908 31193 | $\Gamma(1/4)$ |
| 2 .62684 81359 71796 25871 | $\sqrt{19} - \sqrt{3}$ |
| 3 .62686 04078 47018 76767 | $\sinh 2$ |
| 3 .62759 87284 68435 70119 | $2\pi/\sqrt{3} = \Gamma(1/3) + \Gamma(2/3)$ |
| * 0 .62831 85307 17958 64769 | $\pi/5$ |
| * 0 .62996 05249 47436 58238 | $2^{-2/3}$ |
| 0 .63070 47909 09732 81579 | $1/F(1,2)$ |
| * 0 .63092 97535 71457 43710 | $(\ln 2)/\ln 3$ |
| 0 .63157 03587 43543 09510 | $\log_{10} 99^9 - 3696 93099$ |
| 0 .63157 89473 68421 05263 | $12/19$ |
| 11 .63172 83965 67448 92914 | $\Gamma(4.5) = 105 \sqrt{\pi}/16$ |
| 0 .63212 05588 28557 67840 | $1 - 1/e$ |
| 0 .63245 55320 33675 86640 | $\sqrt{0.4}$ |
| 1 .63252 69194 38152 84477 | $2^{1/\sqrt{2}}$ |
| 3 .63293 02425 07901 63424 | -ber(7) Bessel Function |
| 1 .63299 31618 55452 06546 | $\sqrt{24}/3$ |
| 6 .63324 95807 10799 69823 | $\sqrt{44}$ |
| * 1 .63436 52930 13543 32337 | root of $x^3 + x - 6 = 0$ |
| 0 .63458 99303 70878 93904 | $\int_0^1 e^{x^2} dx - 1149400$ |
| 0 .63514 89523 87287 31921 | $\tanh 0.75$ |
| 0 .63516 63546 | c_3 |
| 0 .63567 44903 91564 48945 | $\sqrt{12} - \sqrt{8}$ |
| 0 .63617 77546 64319 | $\eta(2/3)$ |
| 0 .63661 97723 67581 34308 | $2/\pi$ |
| 4 .63680 92477 47851 87626 | $\sqrt{86}/2$ |
| 1 .63691 53687 07627 18877 | $\sqrt{15} - \sqrt{5}$ |
| 1 .63707 05543 74489 99399 | $\sqrt{67}/5$ |
| 0 .63708 94116 55295 85329 | $\sqrt{18} - \sqrt{13}$ |
| * 1 .63852 84199 70363 31877 | root of $e^x = \pi x$ |
| 2 .63926 97253 48986 12222 | $\psi(14.5)$ |
| 0 .63935 34650 40353 93971 | $0.75 - \ln(e^{0.75} - 1)$ |
| 1 .63935 96310 75500 16309 | $\sqrt{43}/4$ |
| 3 .64005 49446 40259 13555 | $\sqrt{53}/2$ |
| * 0 .64110 10564 59326 44776 | $5 - \sqrt{19}$ |
| 1 .64147 63002 99350 78696 | $\sqrt{97}/6$ |
| 4 .64158 88336 12778 89241 | $10^{2/3}$ |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 0 .64194 48385 28826 41030 | |
| 0 .64285 71428 57142 85714 | |
| * 0 .64350 11087 93284 38680 | |
| 0 .64359 42529 05582 62474 | |
| 1 .64370 88302 53389 29521 | |
| 0 .64400 35777 63146 82613 | |
| 0 .64421 76872 37691 05367 | |
| 3 .64463 01496 02875 41660 | |
| 1 .64493 40668 48226 43647 | |
| 0 .64516 12903 22580 64516 | |
| 0 .64532 22121 62633 36540 | |
| 0 .64549 72243 67902 81420 | |
| 2 .64575 13110 64590 59050 | |
| 0 .64705 88235 29411 76471 | |
| 0 .64836 08274 59086 67126 | |
| 1 .64872 12707 00128 14685 | |
| * 1 .64903 03148 13849 13628 | |
| * 1 .64924 22502 47064 21993 | |
| 13 .64953 75082 86059 76953 | |
| 0 .64962 95149 53458 99316 | |
| 1 .64991 58227 68610 89027 | |
| 1 .65062 91914 39388 21888 | |
| * 1 .65096 36244 47313 34194 | |
| * 0 .65145 22021 45141 28859 | |
| 0 .65217 39130 43478 26087 | |
| * 0 .65266 37623 34791 30689 | |
| * 8 .65372 79129 11012 21695 | |
| 0 .65384 61538 46153 84615 | |
| 0 .65517 24137 93103 44828 | |
| 0 .65579 42026 32672 43565 | |
| * 5 .65685 42494 92380 19521 | |
| 0 .65797 36267 39290 57459 | |
| 1 .65831 23951 77699 92456 | |
| * 0 .65900 40104 79905 96277 | |
| 0 .66016 18158 46869 57393 | |
| 2 .66039 90584 63684 99043 | |
| 1 .66080 24397 70551 75806 | |
| 1 .66132 47725 83614 97052 | |
| 0 .66143 78277 66147 64763 | |
| 1 .66164 65170 15796 32897 | |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|---|
| 1 .66167 54852 23921 27559 | $15\sqrt{\pi}/16$ |
| 156 .66187 97754 94085 60910 | $e^7/7$ |
| 63 .66197 72367 58134 30755 | $200/\pi$ |
| 0 .66332 49580 71079 96982 | $\sqrt{11}/5$ |
| 4 .66368 95265 44407 52278 | $\sqrt{87}/2$ |
| * 0 .66467 01940 89568 51024 | $3\sqrt{\pi}/8$ |
| 14 .66482 84004 99333 52735 | e^K $K = \text{Khintchine's Constant}$ |
| * 2 .66514 41426 90225 18865 | $2\sqrt{2}$ |
| 2 .66840 16487 21944 86734 | $19^{1/3}$ |
| 0 .66913 06063 58858 21383 | $\sin 42^\circ = (1/16)(2 - 2\sqrt{5} + (1 + \sqrt{5})\sqrt{30 - 6\sqrt{5}})$ |
| 1 .67024 46969 62733 02858 | root of $x^3 + 2x - 8 = 0$ |
| 0 .67048 27097 90073 28104 | $e^{-2}\text{Ei}(2)$ |
| 0 .67087 34792 90809 25861 | $\sqrt{11} - \sqrt{7}$ |
| 1 .67100 65843 25317 16521 | $(\sum_{n=0}^{\infty} 1/a_n)^{1/2}$ |
| 9 .67120 51499 00332 24487 | root of $xe^x = x^5 + 5x^4 + 20x^3 + 60x^2 + 120x + 120$ |
| 0 .67144 13508 01757 63664 | $0.75/(e^{0.75} - 1)$ |
| 1 .67169 98816 57160 96975 | root of $x^3 - x - 3 = 0$ |
| 0 .67331 36249 15991 91291 | $(f(4))^{-1}$ |
| 1 .67332 00530 68151 09596 | $\sqrt{70}/5$ |
| 1 .67361 58828 34482 45162 | $\sqrt{17} - \sqrt{6}$ |
| 3 .67423 46141 74767 14730 | $\sqrt{54}/2$ |
| * 0 .67448 97501 96081 74320 | root of $\int_0^x e^{-t^2/2} dt = \sqrt{2\pi}$ |
| 0 .67474 09422 23552 66306 | $\arctan 0.8$ |
| * 0 .67513 15329 37031 64721 | $\arcsin(5/8)$ |
| 2 .67648 43396 28345 10884 | $-\cot 10^6$ |
| * 1 .67705 09831 24842 27231 | $\sqrt{45}/4$ |
| 0 .67741 93548 38709 67742 | $21/31$ |
| 0 .67857 14285 71428 57143 | $19/28$ |
| 2 .67893 85347 07747 63366 | $\Gamma(1/3)$ |
| 1 .67901 64197 85598 19545 | root of $xe^x = 9$ |
| * 0 .68012 21323 34869 81113 | $\cot 1000$ |
| 7 .68114 57478 68608 17577 | $\sqrt{59}$ |
| 0 .68163 87600 23334 16673 | $\sin 0.75$ |
| 1 .68179 28305 07429 08606 | $2^{0.75}$ |
| * 0 .68232 78038 28019 32737 | root of $x^3 + x - 1 = 0$ |
| 29 .68263 18205 15320 68422 | $e^5/5$ |
| 0 .68278 40632 55295 68147 | $\pi^{-1/3}$ |
| 0 .68330 78341 08756 36254 | $1.5e^{1.5}/(e^{1.5} - 1) - \ln(e^{1.5} - 1)$ |
| 0 .68337 52096 44600 15089 | $4 - \sqrt{11}$ |
| 0 .68421 05263 15789 47368 | 13/19 |

(continued)

Table I (continued)

| | | Ref. |
|---------------------------------|---|-------|
| 0 .68438 69417 81919 68240 | $-J_0(5.5)$ Bessel Function | |
| 0 .68472 47885 63157 12330 | $(\ln 2) \cdot (\ln K)$ | 16 |
| 1 .68522 99546 35271 72613 | $\sqrt{71}/5$ | |
| 2 .68545 20010 65306 44531 | K Khintchine's constant | 16 |
| 4 .68555 77202 82967 79461 * | $\sqrt{5} + \sqrt{6}$ | |
| 0 .68718 42709 36276 75830 | $\sqrt{17}/6$ | |
| 2 .68741 92494 32849 88412 | $\sqrt{65}/3$ | |
| 1 .68809 17949 64468 60062 | $e^{\pi/6}$ | |
| 1 .68887 63346 63839 58941 | $E_1(3) + \gamma + \ln 3$ | 9,10 |
| 0 .68965 51724 13793 10345 * | $20/29$ | |
| 0 .69024 44509 82781 75927 | $\sum_{k=2}^{\infty} (-1)^k / \sqrt{\ln k}$ | |
| 4 .69041 57598 23429 55457 * | $\sqrt{22}$ | |
| 0 .69137 29041 10001 75650 | $[0,1,2,4,6, \dots]$ terms = p - 1 p = primes | 15 |
| 0 .69220 06275 55346 35387 | $e^{-1/e}$ | |
| 0 .69230 76923 07692 30769 | $9/13$ | |
| 2 .69258 24035 67252 01563 | $\sqrt{29}/2$ | |
| 0 .69282 03230 27550 91741 * | $\sqrt{12}/5$ | |
| 0 .69314 71805 59945 30942 | $\ln 2$ | |
| 4 .69409 11329 74174 57644 * | 2^{nd} root of $\cos x \cosh x = -1$ | |
| 3 .69452 80494 65325 11362 | $e^2/2$ | |
| 6 .69517 89743 95889 24698 | $e^3/3$ | |
| 7 .69529 89809 71184 57326 | $\pi \sqrt{6}$ | |
| 1 .69558 24957 81317 03477 | $\sqrt{46}/4$ | |
| 2 .69562 07695 59862 05742 | root of $x^6 - 6x^4 - 7x^2 - 16 = 0$ | |
| 0 .69565 21739 13043 47826 * | $16/23$ | |
| 0 .69670 67093 47165 42092 | $\cos 0.8$ | |
| 2 .69682 22144 96180 00677 | root of $e^x = 5.5x$ (other is 0.22849 ...) | |
| 1 .69705 62748 47714 05856 | $\sqrt{72}/5$ | |
| 0 .69717 48832 35066 06877 * | $e^{-1} Ei(1)$ | 9 |
| 0 .69777 46579 64007 98201 | $[0,1,2,3,4,5, \dots]$ | 15 |
| 1 .69815 62788 97228 44669 | $[1,1,2,3,5,8, \dots]$ | 15,31 |
| 0 .69816 21154 38393 90353 | $[0,1,2,3,5,7, \dots]$ terms are primes | 15 |
| 0 .69816 21154 38393 93086 | $[0,1,2,3,5,7, \dots]$ terms are twin primes | 15 |
| 1 .69888 54898 46329 75803 | root of $x^3 + 3x - 10 = 0$ | |
| 0 .69897 00043 36018 80479 | $\log_{10} 5$ | |
| 1 .69967 31711 97594 94334 * | $\sqrt{26}/3$ | |
| 1 .70195 | $1/3 + 1/5 + 1/7 + 1/11 + 1/13 + \dots 1/p + 1/(p+2) \dots$ twin primes | 13 |
| 1 .70295 69194 26469 21610 * | $-\cot 100$ | |
| 1 .70349 91708 35587 71396 * | $0.5e^{0.5}/(e^{0.5} - 1) - \ln(e^{0.5} - 1)$ | |
| 0 .70416 996 | $\int_1^{\infty} x^{-x} dx$ | 2 |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|-------|
| 0 .70417 80336 18447 62322 | 36 |
| 0 .70477 09230 10457 97247 | |
| 0 .70497 17429 34954 18706 | |
| 0 .70588 23529 41176 47059 | |
| 1 .70611 76684 31800 47273 | 10 |
| 0 .70710 67811 86547 52440 | |
| 0 .70723 60838 12211 65251 | 36 |
| 2 .70754 36363 22236 03677 | |
| 2 .70801 28015 45320 12015 | |
| 3 .70809 92435 47831 47436 | |
| 6 .70820 39324 99369 08923 | |
| * 3 .70853 11562 71033 51157 | |
| 1 .70880 07490 63506 23357 | |
| 2 .70889 20632 44565 50102 | |
| 1 .70951 12913 51454 77698 | |
| 0 .70967 74193 54838 70968 | |
| 0 .70980 34428 61291 31464 | |
| 1 .70997 59466 76696 98935 | 15,31 |
| 0 .71070 56860 39037 55318 | |
| 0 .71085 53514 29328 41689 | |
| * 6 .71144 10833 21150 45413 | |
| * 4 .71238 89803 84689 85769 | |
| 24 .71278 31686 78274 75278 | |
| 0 .71278 79173 85201 23380 | |
| 1 .71314 76324 76082 96174 | |
| 1 .71391 36501 00261 03123 | |
| 0 .71428 57142 85714 28571 | |
| 2 .71441 76165 94906 57152 | |
| * 0 .71653 13105 73789 25043 | |
| 1 .71673 34350 78240 46053 | |
| 3 .71681 46928 20413 52307 | |
| 4 .71699 05660 28301 90566 | |
| * 0 .71735 60908 99522 76163 | |
| 0 .71743 89352 14300 80467 | |
| 2 .71828 18284 59045 23536 | |
| 0 .71882 99996 21624 50542 | |
| * 1 .72046 50534 08525 35435 | |
| 0 .72111 02550 92797 85862 | |
| 0 .72197 19140 50018 32487 | |
| 0 .72273 42478 13415 61118 | |

(continued)

Table I (continued)

| | Ref. |
|--|------|
| 0 .72360 12545 58267 65936 * 0 .72406 16609 66310 46641 | |
| 0 .72413 79310 34482 75862 * 0 .72548 88276 11924 01977 | |
| 0 .72586 13577 66226 25705 0 .72648 31572 56778 92537 | |
| 0 .72654 25280 05360 88590 * 3 .72776 54920 37194 11263 | |
| 0 .72797 36058 52580 99272 0 .72798 03504 85931 03575 | |
| 0 .72818 24660 65734 55093 0 .72825 66173 92955 77027 | |
| 0 .72826 22466 74313 39204 0 .72836 56203 94719 38036 | |
| 2 .72845 09239 57483 32332 0 .72875 76793 51812 51410 | |
| 0 .72920 95053 54607 91116 4 .73004 07448 62704 02602 | |
| 0 .73047 85682 25638 00723 0 .73076 92307 69230 76923 | |
| 0 .73108 18074 88100 63843 1 .73123 40490 66756 08883 | |
| 0 .73168 88688 73820 88631 1 .73205 08075 68877 29353 | |
| 0 .73281 51017 86506 59164 0 .73293 55988 79427 74087 | |
| 0 .73300 68312 36957 22280 0 .73370 05501 36169 82735 | |
| 0 .73399 82388 94925 20720 0 .73535 59382 40456 41660 | |
| 0 .73575 88823 42884 64319 * 0 .73684 21052 63157 89474 * 1 .73737 02334 84769 46302 | |
| 0 .73848 81116 21648 31294 0 .73859 04181 80534 36842 2 .73861 27875 25830 56728 | |
| 0 .73908 51332 15160 64166 0 .73913 04347 82608 69565 | |
| 1 .73920 38612 16693 68261 2 .74008 51474 30702 09929 | |
| | 36 |
| | 36 |
| | 31 |
| | 36 |
| | 36 |

(continued)

Table I (continued)

| | Ref. |
|-------------------------------|-------------|
| * 0 .74084 09550 95490 62101 | |
| * 3 .74134 96523 56515 88095 | |
| 3 .74165 73867 73941 38558 | |
| 0 .74193 54838 70967 74194 | |
| 0 .74314 48254 77394 23501 | |
| 4 .74341 64902 52568 99800 | |
| 1 .74355 95774 16269 42089 | |
| * 5 .74456 26465 38028 65985 | |
| 0 .74531 92669 53231 15861 | |
| 0 .74535 59924 99929 89880 | |
| 1 .74552 80027 40699 38307 | |
| * 7 .74596 66924 14833 77036 | |
| 3437 .74677 07849 39252 60789 | |
| 0 .74682 41328 12427 02540 | |
| 2 .74767 45774 64761 43074 | |
| 1 .74806 40977 95284 28320 | |
| 0 .74833 14773 54788 27712 | |
| 2 .74873 70837 45107 03321 | |
| 0 .74930 60012 88449 02361 | |
| 0 .75069 87170 | |
| 0 .75105 23780 02794 33624 | |
| 0 .75112 55444 64942 48286 | |
| 0 .75173 41827 13808 22855 | |
| 5 .75222 03923 06202 84612 | |
| * 0 .75306 42905 00950 67265 | |
| 0 .75334 76680 76684 25912 | |
| 1 .75499 28774 78424 41208 | |
| * 0 .75623 99931 57849 48869 | |
| 0 .75647 07973 66030 02943 | |
| 0 .75680 24953 07928 25137 | |
| 0 .75735 93128 80714 85359 | |
| 1 .75812 26324 09172 21545 | |
| * 0 .75862 06896 55172 41379 | |
| 2 .75892 41763 81120 66947 | |
| 0 .75920 03385 45335 27837 | |
| * 0 .76017 34505 33140 40281 | |
| 0 .76018 82579 99435 27406 | |
| * 0 .76086 58 | |
| 0 .76159 41559 55764 88812 | |
| 0 .76190 47619 04761 90476 | |
| | (continued) |

Table I (continued)

| | | Ref. |
|----------------------------|---|--------|
| * | | |
| 3 .76219 56910 83631 45956 | cosh 2 | |
| 1 .76249 63764 55360 47018 | root of $x^3 + 2x - 9 = 0$ | |
| 0 .76315 03155 14009 72328 | root of $F(1, x/2) = x$ (other is $-1.92957 \dots$) | 36 |
| 1 .76322 28343 51896 71023 | root of $x \ln x = 1$ | |
| 0 .76376 26158 25973 33443 | $\sqrt{21}/6$ | |
| 1 .76383 42073 76393 72700 | $\sqrt{28}/3$ | |
| 0 .76393 20225 00210 30359 | $3 - \sqrt{5}$ | |
| 0 .76470 58823 52941 17647 | $13/17$ | |
| 0 .76484 21872 84488 42626 | $\cos 0.7$ | |
| 0 .76519 76865 57966 55145 | $J_0(1)$ | |
| * | | |
| 1 .76635 21732 65569 37095 | $\sqrt{78}/5$ | |
| 0 .76738 12302 55818 48517 | $[0, 1, 1, 2, 3, 5, 8, \dots]^{1/2}$ | 15, 31 |
| * | | |
| 1 .76776 69529 66368 81100 | $\sqrt{50}/4$ | |
| 1 .76812 81839 13930 94274 | $\ln(\pi + e)$ | |
| * | | |
| 0 .76859 75605 93155 19851 | $\xi_3 = [0, 3^F 0, 3^F 1, 3^F 2, \dots]$ Roth number | 15, 31 |
| 1 .76887 25888 14327 38216 | $\pi^{-3/2} e^{-\gamma/2} \Gamma^2(1/4)$ | 10 |
| 2 .76887 46209 72691 61753 | $\sqrt{69}/3$ | |
| 0 .76923 07692 30769 23077 | $10/13$ | |
| 1 .76929 23542 38631 41524 | root of $x^3 - 2x - 2 = 0$ | |
| 4 .76969 60070 84728 24576 | $\sqrt{91}/2$ | |
| * | | |
| 0 .77074 70412 68399 14207 | $1/(2(e^{1/2} - 1))$ | |
| 0 .77091 69970 59248 10083 | root of $x^3 + 2x - 2 = 0$ | |
| * | | |
| 8 .77215 29429 54223 62662 | $\pi \sum_{n=0}^{\infty} 1/a_n$ | 33 |
| 0 .77230 59681 31876 14161 | $-\tan 10^{12}$ | |
| 1 .77245 38509 05516 02730 | $\sqrt{\pi} = \Gamma(1/2)$ | |
| * | | |
| 1 .77387 75832 85132 34380 | $1 + 1/1 \cdot 2 + 1/2 \cdot 3 + 1/3 \cdot 5 + 1/5 \cdot 8 + \dots$ | 31 |
| 5 .77395 42350 13851 69410 | $10^{10} \approx 3183098860 \pi$ | |
| 0 .77419 35483 87096 77419 | $24/31$ | |
| 0 .77459 66692 41483 37704 | $\sqrt{15}/5$ | |
| 0 .77480 41132 15433 85409 | root of $x^4 + x^3 - x^2 + x - 1 = 0$ | |
| * | | |
| 3 .77491 72176 35374 84862 | $\sqrt{57}/2$ | |
| * | | |
| 0 .77539 74966 10753 06374 | $\arcsin 0.7$ | |
| * | | |
| 0 .77712 41507 17799 19552 | $\sqrt{13} - \sqrt{8}$ | |
| 1 .77763 88834 63117 77002 | $\sqrt{79}/5$ | |
| 1 .77827 94100 38922 80123 | $10^{1/4}$ | |
| 0 .77853 90719 81530 55935 | $\sqrt{18} - \sqrt{12}$ | |
| * | | |
| 0 .77976 71360 88000 28819 | minimum of $\sqrt{x^2 + e^{-2x}}$ $x = 0.42630 \dots$ | |
| * | | |
| 1 .78107 24179 90197 98524 | e^Y | 10 |
| * | | |
| 0 .78173 59599 70571 59243 | $\sqrt{22}/6$ | |
| 0 .78222 75588 64675 12814 | $\Gamma^4(1/4)/4e^Y \pi^3$ | 10 |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|---|-------|
| 6 .78232 99831 25268 13906 | $\sqrt{46}$ | |
| 0 .78260 86956 52173 91304 | 18/23 | |
| 0 .78332 69096 27483 38846 | $\sin 0.9$ | |
| 0 .78343 05107 12134 40706 | $1 - 1/2^2 + 1/3^3 - 1/4^4 + \dots = \int_0^1 x^x dx$ | |
| 2 .78388 21814 15010 96106 | $\sqrt{31}/2$ | |
| * 2 .78504 09255 45416 54998 | $2(15)1/(2\pi)^{15}$ | |
| 1 .78535 71071 35712 49950 | $\sqrt{51}/4$ | |
| 0 .78539 81633 97448 30962 | $\pi/4$ | |
| 0 .78555 27428 46740 54486 | root of $\cos x = 0.9x$ | |
| 0 .78571 42857 14285 71429 | $11/14$ | |
| * 0 .78693 86805 74733 15279 | $2(1 - e^{-0.5})$ | |
| 9 .78760 60360 44382 26418 | $\sum_{n=1}^{10000} 1/n$ | |
| 3 .78762 71814 42145 88694 | $F(-1,2)$ | 36 |
| * 1 .78885 43819 99831 75713 | $\sqrt{80}/5$ | |
| 2 .78886 67551 13585 15993 | $\sqrt{70}/3$ | |
| 0 .78947 36842 10526 31579 | $15/19$ | |
| 0 .79030 88603 83940 80399 | root of $6x^3 - 5x^2 + 4x - 3 = 0$ | |
| 0 .79056 94150 42094 83300 | $\sqrt{10}/4$ | |
| 1 .79099 24754 67610 91030 | $-\cot 10^{10}$ | |
| 4 .79128 78474 77920 00329 | $0.5(5 + \sqrt{21})$ | |
| 0 .79144 63018 52890 27005 | $\cos 10^{12}$ | |
| 11 .79153 44390 14281 61374 | Fourth zero of $J_0(x)$ | |
| 1 .79175 94692 28055 00081 | $\ln 6$ | |
| 2 .79226 30048 58563 30603 | $\sum_{n=0}^{\infty} 1/a_n$ | 33 |
| 0 .79276 39161 87788 34749 | $F(1,0)$ | 36 |
| 6 .79282 34299 90524 60299 | $\sum_{n=1}^{500} 1/n$ | |
| * 0 .79310 34482 75862 06897 | $23/29$ | |
| 1 .79315 09443 36107 04821 | $\sqrt{18} - \sqrt{6}$ | |
| * 0 .79370 05259 84099 73738 | $2^{-1/3}$ | |
| 1 .79505 49357 11501 34375 | $\sqrt{29}/3$ | |
| 0 .79539 88301 84143 55549 | $\arccos 0.7$ | |
| 4 .79583 15233 12719 54160 | $\sqrt{23}$ | |
| 1 .79632 19032 59441 53505 | root of $x^3 - x - 4 = 0$ | |
| 0 .79659 95992 97053 13428 | $\gamma + E_1(1)$ | 9,10 |
| 3 .79719 28760 32294 41479 | $\sqrt{5} [1,1,2,3,5, \dots]$ | 15,31 |
| 0 .79788 45608 02865 35588 | $\sqrt{2/\pi}$ | |
| 2 .79838 60457 83887 13672 | root of $x \tan x + 1 = 0$ | |
| 0 .79930 52538 85453 25693 | $\sqrt{23}/6$ | |
| 3 .80178 40169 23930 27472 | $(\ln 2)/(\ln 6 - \ln 5)$ | |
| 2 .80203 93306 55387 12067 | $22^{1/3}$ | |

(continued)

Table I (continued)

| | Ref. |
|--|---------------|
| 1 .80277 56377 31994 64656 | |
| 0 .80316 23441 42897 23918 | |
| * $\sum_{n=1}^{\infty} (-1)^{n+1} / (n \cdot a_n)$ | 33 |
| 2 .80588 37014 75778 71510 | |
| 0 .80599 59770 08234 82036 | |
| 0 .80624 70963 55156 47336 | |
| 5 .80628 14910 46215 84042 | |
| 0 .80632 58048 05279 57525 | |
| 0 .80645 16129 03225 80645 | |
| 0 .80648 08352 62260 70071 | |
| * $\sqrt{17} - \sqrt{11}$ | |
| 0 .80769 23076 92307 69231 | |
| 3 .80788 65529 31954 14283 | |
| * $\sqrt{58}/2$ | |
| 2 .80871 65910 58786 21021 | |
| 0 .80901 69943 74947 42410 | |
| 0 .80952 38095 23809 52381 | |
| 4 .81047 73809 65351 65547 | |
| 0 .81053 57137 66136 77402 | |
| 1 .81107 70276 27483 32531 | |
| * $\sqrt{82}/5$ | |
| 1 .81337 64923 91603 49961 | |
| * $\pi\gamma$ | 10 |
| 1 .81379 93642 34217 85059 | |
| 5 .81586 41982 83724 46457 | |
| 0 .81604 89390 98262 98108 | |
| 0 .81649 65809 27726 03273 | |
| 1 .81712 05928 32139 65889 | |
| 9 .81732 69112 33034 46456 | |
| 0 .81773 16738 86823 50609 | |
| 0 .81806 78991 01251 66919 | |
| 0 .81835 03040 73163 99655 | |
| 3 .81837 52175 45151 65762 | |
| * $0.5(1 + \sqrt{5})(1 + 1/2 + 1/3 + 1/5 + \dots)$ | 31 |
| 1 .82002 74723 20129 56777 | |
| 0 .82142 85714 28571 42857 | |
| 4 .82164 01644 04113 86884 | |
| 4 .82182 53804 96477 49788 | |
| 0 .82185 44151 26694 64761 | |
| 1 .82208 67158 28859 77639 | |
| 0 .82231 67319 35829 98070 | |
| 0 .82246 70334 24113 21824 | |
| 2 .82253 37450 | |
| * $\Sigma 1/p$ $p = \text{primes } 2 \text{ to } 420001$ | 8 |
| 0 .82352 94117 64705 88235 | |
| 0 .82451 51574 06924 56814 | |
| 0 .82462 11251 23532 10996 | |
| | $\sqrt{17}/5$ |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| * 0 .82533 56149 09678 29724 | |
| 1 .82545 50229 24830 04004 | |
| 1 .82574 18583 50553 71152 | |
| 0 .82608 69565 21739 13043 | |
| 7 .82623 79212 49263 93743 | |
| 1 .82638 46439 34988 80232 | |
| 0 .82687 95405 32002 56026 | |
| 3 .82698 35605 81143 33971 | |
| 0 .82758 62068 96551 72414 | |
| 0 .82772 87426 35745 22359 | |
| 2 .82842 71247 46190 09760 | |
| 0 .82915 61975 88849 96228 | |
| 5 .83095 18948 45300 47087 | |
| 0 .83184 85666 76786 79637 | |
| 0 .83242 90656 61945 27803 | |
| * | |
| 1 .83303 02779 82336 00264 | |
| 2 .83314 78920 49342 14261 | |
| 1 .83375 09577 21400 64841 | |
| 5 .83375 45586 25099 24004 | |
| 3 .83497 04207 65194 04835 | |
| 0 .83543 36734 51827 26616 | |
| * | |
| 0 .83706 07706 21972 61150 | |
| 1 .83711 73070 87383 57365 | |
| 0 .83713 04978 74758 54374 | |
| 0 .83772 23398 31620 66800 | |
| 0 .83786 69409 80208 24089 | |
| 1 .83787 70664 09345 48356 | |
| 0 .83788 71813 63902 33439 | |
| 0 .83798 12250 08390 02759 | |
| * | |
| 0 .83844 76740 76117 24632 | |
| * | |
| 0 .83870 96774 19354 83871 | |
| 0 .83907 15290 76452 45226 | |
| 1 .83928 67552 14161 13255 | |
| * | |
| 138 .84046 59416 32647 20638 | |
| 3 .84057 28739 34304 08788 | |
| 0 .84147 09848 07896 50665 | |
| * | |
| 0 .84210 52631 57894 73684 | |
| * | |
| 0 .84273 94416 46816 97969 | |
| * | |
| 2 .84386 69798 51565 47770 | |
| 1 .84390 88914 58577 46200 | |

(continued)

Table I (continued)

| | | Ref. |
|----------------------------|---|------|
| 1 .84418 92635 47018 87078 | $r(3)$ | |
| 2 .84557 05928 42116 55915 | $(\sum_{n=0}^{\infty} (-1)^n/a_n)^{-1}$ | 33 |
| 0 .84615 38461 53846 15385 | 11/13 | |
| 0 .84655 03844 86253 22560 | $2 \sum_{n=0}^{\infty} (-1)^n(n+2)/((n+2)!)^2$ | |
| * | root of $x^3 + 2x - 10 = 0$ | |
| 1 .84741 90378 32732 72274 | | |
| 4 .84767 98574 16329 01407 | $\sqrt{94}/2$ | |
| 2 .84800 12484 39177 05596 | $\sqrt{73}/3$ | |
| 0 .84806 20789 81481 00805 | arcsin 0.75 | |
| 1 .84839 24814 93187 49178 | $(8 \ln 2)/3$ | |
| 0 .84852 81374 23857 02928 | $\sqrt{18}/5$ | |
| * | $e^{\pi}/3$ | |
| 2 .84965 39082 26361 49747 | | |
| 9 .84966 27591 23000 81740 | $r^2(1/4)/e^{Y/2}$ | 10 |
| 0 .84981 18803 02595 47561 | $2 - 0.5(1 + \sqrt{5})\phi_2$ | 32 |
| 0 .84983 65855 98797 47167 | $\sqrt{26}/6$ | |
| * | arc cot (7/8) | |
| 0 .85196 63271 73272 11381 | | |
| 0 .85260 55020 13725 49135 | root of $xe^x = 2$ | |
| 7 .85320 46240 95837 55648 | 2^{nd} root of $\cos x \cosh x = 1$ | |
| 1 .85404 96217 73915 73718 | $\sqrt{55}/4$ | |
| 1 .85407 46773 01371 91844 | $r^2(1/4)/4 \sqrt{\pi} = \tilde{\omega}/\sqrt{2}$ | 1 |
| * | root of $x^x = \pi$ | |
| 1 .85410 59679 21026 43275 | | |
| 1 .85472 36990 99140 75050 | $\sqrt{86}/5$ | |
| 0 .85475 56456 75727 38849 | $(\ln 2)/2(\ln 3 - \ln 2)$ | |
| 7 .85475 74382 37612 56486 | 3^{rd} root of $\cos x \cosh x = -1$ | |
| 6 .85565 46004 01044 12494 | $\sqrt{47}$ | |
| 2 .85566 90083 72142 50601 | $\sqrt{3e}$ | |
| 1 .85592 14542 76673 97404 | $\sqrt{31}/3$ | |
| 0 .85714 28571 42857 14286 | 6/7 | |
| 2 .85739 07835 14365 67923 | root of $x \ln x = 3$ | |
| 8 .85831 59660 45036 08855 | -ber(6) Bessel Function | |
| 0 .85964 85585 93615 27152 | $-\ln(\pi-e)$ | |
| 5 .85987 44820 48838 47382 | $\pi + e$ | |
| * | root of $x \tan x = 1$ | |
| 0 .86033 35890 19379 76248 | root of $x^2 - 15x - 18 + 10 \sqrt{36 - x^2} = 0$ | |
| 2 .86167 63707 98678 80956 | 25/29 | |
| 0 .86206 89655 17241 37931 | $\cos 100$ | |
| 0 .86231 88722 87683 93410 | $G(1,3)$ | |
| * | | |
| 1 .86361 67832 44896 54236 | $\sqrt{2} + \sqrt{6} = 4 \cos 15^\circ$ | 37 |
| 3 .86370 33051 56273 14700 | $0.5 (\sqrt{13} + \sqrt{17})$ | |
| 3 .86432 84505 40824 92147 | root of $4 \cos x = 3x$ | |
| 0 .86492 72805 42030 81492 | | |
| 0 .86525 59794 32265 08722 | e/π | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|--------|
| 1 .86547 58106 17763 00911 | $\sqrt{87}/5$ | |
| 0 .86602 51037 84438 64676 | $\sin 60^\circ = \sqrt{3}/2$ | |
| 0 .86658 46795 35590 09970 | $\sqrt{20} - \sqrt{13}$ | |
| 0 .86713 50475 72221 75092 | $\sqrt{11} - \sqrt{6}$ | |
| 2 .86744 17556 80875 59058 | $\sqrt{74}/3$ | |
| * 0 .86867 09614 86009 60990 | $\sinh \pi/4$ | |
| 0 .86956 52173 91304 34783 | 20/23 | |
| 9 .86960 44010 89358 61883 | π^2 | |
| 1 .87082 86933 86970 69279 | $\sqrt{14}/2$ | |
| 0 .87096 77419 35483 87097 | 27/31 | |
| 0 .87177 97887 08134 71045 | $\sqrt{19}/5$ | |
| 0 .87201 05272 21196 61415 | 64/27e | |
| 2 .87228 13232 69014 32993 | $\sqrt{33}/2$ | |
| 0 .87235 80249 54859 94177 | $\pi^2/8\sqrt{2}$ | |
| 133 .87244 70205 08257 12856 | 0.5 $\sinh 2\pi$ | |
| 1 .87278 43350 98467 13939 | $\psi(7) = 49/20 - \gamma$ | 10 |
| 3 .87298 33462 07416 88518 | $\sqrt{15}$ | |
| 4 .87299 75842 81389 37523 | $0.4e^{2.5}$ | |
| 0 .87311 96226 76856 00118 | $\cos 10^{10}$ | |
| 133 .87338 07418 74111 12296 | 0.5 $\cosh 2\pi$ | |
| 4 .87339 71724 04481 95342 | $\sqrt{95}/2$ | |
| 1 .87350 04678 95111 99959 | $\sqrt{13} - \sqrt{3}$ | |
| 1 .87510 40687 11961 16645 | 1 st root of $\cos x \cosh x = -1$ | |
| 0 .87600 29853 00745 69899 | $[0,1,1,2,3,5, \dots]^{1/4}$ | 15, 31 |
| 1 .87616 63039 29371 82183 | $\sqrt{88}/5$ | |
| 0 .87689 43743 82339 45018 | $5 - \sqrt{17}$ | |
| 0 .87758 25618 90372 71612 | $\cos 0.5$ | |
| * 5 .87803 09481 21444 47606 | $\sum_{n=1}^{200} 1/n$ | |
| 1 .87938 52415 71816 76811 | root of $x^3 - 3x - 1 = 0$ | |
| 1 .87979 77110 64811 55918 | $\sum_2^{139} 1/p$ p = primes | |
| 0 .88020 29160 46949 61606 | $0.25/(e^{0.25} - 1)$ | |
| * 0 .88137 35870 19543 02523 | $\operatorname{arcsinh} 1 = \ln(1 + \sqrt{2})$ | |
| 0 .88191 71036 88196 86350 | $\sqrt{7}/3$ | |
| 0 .88208 13907 62421 67997 | $\int_0^2 e^{-x^2} dx$ | |
| 4 .88232 83663 67131 11591 | $F(-1,5)$ | 36 |
| 0 .88235 29411 76470 58824 | 15/17 | |
| * 2 .88373 47475 58081 52391 | $[1,1,2,3,5,8, \dots]^2$ | 15, 31 |
| 0 .88443 62944 07163 69108 | $\Gamma^2(1/4)/2e^{\gamma/2}\pi^{3/2}$ | 10 |
| 2 .88449 91406 14816 76464 | $24^{1/3}$ | |
| 0 .88461 53846 15384 61538 | 23/26 | |

(continued)

Table I (continued)

| | | Ref. |
|------------------------------|--|-------|
| 0 .88502 88466 77125 53195 | H(1,-2) | |
| 287 .88527 78150 44360 99632 | $\Gamma(6.5) = 10395 \sqrt{\pi}/64$ | |
| 0 .88560 31944 10888 70028 | $\Gamma(x)$ at minimum ($x = 1.46163 \dots$) | |
| 1 .88561 80831 64126 73174 | $\sqrt{32}/3$ | |
| * 0 .88620 73482 59521 23389 | $\int_0^3 e^{-x^2} dx$ | |
| 0 .88622 69117 89568 94577 | $\int_0^4 e^{-x^2} dx$ | |
| 0 .88622 69254 51395 47538 | $\int_0^5 e^{-x^2} dx$ | |
| 0 .88622 69254 52758 01365 | $0.5 \sqrt{\pi} = \Gamma(1.5)$ | |
| * 2 .88675 13459 48128 82255 | $\sqrt{75}/3$ | |
| 1 .88679 62264 11320 76226 | $\sqrt{89}/5$ | |
| 0 .88693 87916 42566 17190 | $1/2(1 + 1/1.2 + 1/2.3 + 1/3.5 + 1/5.8 \dots)$ | 31 |
| 1 .88703 76481 17870 85341 | $\sqrt{17} - \sqrt{5}$ | |
| 1 .88745 86088 17687 42431 | $\sqrt{57}/4$ | |
| * 1 .88859 74120 29828 14992 | root of $e^x = 3.5x$ (other is 0.44654 ...) | |
| 0 .88880 49192 71738 62484 | $(\sum_{n=0}^{\infty} 1/a_n)/\pi$ | 33 |
| 3 .89115 68233 26853 81808 | | 39 |
| 0 .89120 73600 61435 33995 | $\sin 1.1$ | |
| 0 .89122 59655 34573 52253 | $-dF(1,x)/dx$ at $x = -2$ | 36 |
| 0 .89285 71428 57142 85714 | 25/28 | |
| 0 .89297 95115 69249 21122 | $\Gamma(4/3)$ | |
| 1 .89328 91963 04497 78891 | root of $x^3 - 2x - 3 = 0$ | |
| 0 .89433 70388 53159 42944 | root of $\cos x = 0.7x$ | |
| * 0 .89473 68421 05263 15789 | 17/19 | |
| 0 .89479 73284 02918 96518 | $\sqrt{19} - \sqrt{12}$ | |
| 1 .89511 78163 55936 75547 | Ei(1) | 9 |
| 0 .89547 15367 32346 52860 | $1 - \sin 6^\circ$ | |
| * 0 .89566 47938 57864 97202 | arccos (5/8) | |
| 0 .89605 53845 71343 95617 | arccot 0.8 | |
| 0 .89655 17241 37931 03448 | 26/29 | |
| 4 .89703 22682 39870 15769 | $[1,1,2,3,5, \dots]^3$ | 15,31 |
| 0 .89723 67637 35396 23808 | $\pi^2/11$ | |
| 1 .89736 65961 01027 59920 | $\sqrt{90}/5$ | |
| 0 .89752 74678 55750 67188 | $\sqrt{29}/6$ | |
| * 0 .89814 31669 22466 60546 | 625/256e | |
| 4 .89897 94855 66356 19639 | $\sqrt{24}$ | |
| 0 .90031 63161 57106 06956 | $\sqrt{8}/\pi$ | |
| 0 .90040 40442 97839 94512 | $\tan 42^\circ$ | |
| 0 .90066 01736 97680 10310 | $[0,1,9,15,21, \dots]$ terms are odd nonprimes | 15 |
| 0 .90138 78188 65997 32328 | $\sqrt{13}/4$ | |
| 0 .90154 26773 69695 71405 | $\eta(3)$ | 8 |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 1 .90241 12279 82304 80031 | |
| 0 .90274 52929 50933 61130 | |
| 0 .90322 58064 51612 90323 | |
| 1 .90381 36944 40383 48471 | |
| 1 .90394 32764 65977 07142 | |
| 1 .90416 08591 34920 60368 | |
| 0 .90476 19047 61904 76190 | |
| * 3 .90512 48379 53327 19706 | |
| 0 .90514 82536 44866 43824 | |
| * 2 .90593 26290 27115 70149 | |
| 0 .90640 24770 55477 07798 | |
| * 0 .90689 96821 17108 92530 | |
| 0 .90717 86454 78292 84647 | |
| 0 .90727 03861 81739 56116 | |
| * 1 .90787 84028 33891 29831 | |
| 1 .90940 92007 57495 45404 | |
| 0 .91059 84992 12614 70706 | |
| 0 .91173 39147 86965 09789 | |
| 0 .91287 09291 75276 85576 | |
| 1 .91293 11827 72389 10120 | |
| 0 .91304 34782 60869 56522 | |
| 0 .91323 02620 27751 28798 | |
| * 0 .91370 05034 95713 29697 | |
| 0 .91447 21676 24423 30502 | |
| 1 .91485 42155 12676 21995 | |
| 0 .91485 64784 47236 32738 | |
| 0 .91540 17710 55723 35767 | |
| 2 .91547 59474 22650 23544 | |
| 0 .91596 55941 77219 01505 | |
| 5 .91607 97830 99616 04257 | |
| 0 .91651 51389 91168 00132 | |
| 0 .91715 23356 67274 34637 | |
| 2 .91830 04757 83052 59130 | |
| 0 .91893 85332 04672 74178 | |
| 0 .91906 25268 48883 23385 | |
| 1 .92017 51213 47179 64190 | |
| 4 .92026 25653 99516 87205 | |
| 1 .92028 64369 67152 04394 | |
| 0 .92044 20652 59926 03577 | |
| 0 .92059 03462 52050 82372 | |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| * 0 .92067 35942 07792 31895 | |
| 0 .92106 09940 02885 08280 | |
| * 0 .92213 70088 95789 11688 | |
| * 0 .92278 43350 98467 13939 | 10 |
| 0 .92307 69230 76923 07692 | |
| 2 .92401 77382 12866 06551 | |
| 0 .92413 88730 04591 76701 | |
| 0 .92429 98972 22938 85596 | 35 |
| 4 .92442 89008 98052 36087 | |
| 2 .92498 81291 30707 35335 | |
| 5 .92562 11400 93851 43291 | |
| 0 .92601 58967 63885 29729 | |
| 0 .92620 96826 68589 63559 | |
| * 0 .92729 52180 01612 23243 | |
| * 1 .92756 19754 82925 30426 | |
| 4 .92767 14822 48480 89079 | |
| 0 .92796 07271 38336 98702 | |
| 6 .92820 32302 75509 17411 | |
| 0 .92857 14285 71428 57143 | |
| 0 .92869 36604 96591 95286 | |
| 1 .92873 01521 98590 99915 | |
| 1 .92957 25246 23013 88150 | |
| 0 .93103 44827 58620 68966 | |
| 0 .93163 90271 09726 00803 | |
| 19 .93163 95488 50366 64530 | |
| * 1 .93185 16525 78136 57350 | 10 |
| 0 .93203 90859 67226 34967 | |
| 4071 .93209 52252 61098 5245 | |
| * 0 .93219 37597 62973 90523 | |
| 0 .93275 21295 67188 57189 | |
| 9 .93383 25706 25416 55801 | |
| 4 .93480 22005 44679 30942 | 9 |
| 0 .93541 43466 93485 34640 | |
| 0 .93548 38709 67741 93548 | |
| 73 .93572 98576 16179 76190 | |
| 0 .93586 92124 74883 90774 | |
| 0 .93598 09160 46751 27541 | |
| * 1 .93647 92296 48317 93229 | |
| 1 .93649 16731 03708 44259 | |
| 0 .93675 21275 33144 78694 | |

(continued)

Table I (continued)

| | Ref. |
|---------------------------------|---|
| 3 .93700 39370 05905 50984 | $\sqrt{62}/2$ |
| 0 .93754 82543 15843 75370 | $\sum_{n=2}^{\infty} (\ln n)/n^2$ |
| 0 .93756 48970 81389 41299 | root of $4x^3 + 4x^2 - 3x - 4 = 0$ |
| 1 .93758 67852 66042 76690 | bei(3) Bessel Function |
| 0 .93808 31519 64685 91091 | $\sqrt{22}/5$ |
| 0 .93846 98072 40812 90423 | $J_0(0.5)$ Bessel Function |
| 1 .93907 19429 66531 60563 * | $\sqrt{94}/5$ |
| 0 .93969 26207 85908 38405 | $\cos 20^\circ = \text{root of } 8x^3 - 6x - 1 = 0$ |
| 0 .94117 64705 88235 29412 | 16/17 |
| 2 .94129 29542 29584 11215 | $\sqrt{3} [1,1,2,3,5, \dots]$ |
| 1 .94269 51345 04014 46002 | $10^8 - 31830988 \pi$ |
| 0 .94280 90415 82063 36587 | $\sqrt{6}/3$ |
| 1 .94365 06316 15100 15696 | $\sqrt{34}/3$ |
| 2 .94392 02887 75948 95159 | $\sqrt{78}/3$ |
| 8 .94427 19099 99158 78564 | $\sqrt{80}$ |
| 2 .94468 53811 67578 50344 | $\sqrt{19} - \sqrt{2}$ |
| 1 .94591 01490 55313 30511 | $\ln 7$ |
| 0 .94608 30703 67183 01494 * | $Si(1)$ |
| 0 .94703 28294 97245 91758 | $\eta(4) = 7\pi^4/720$ |
| 0 .94736 84210 52631 57895 | 18/19 |
| 0 .94805 94489 68519 93568 | $\pi(1 + \sqrt{2})/8$ |
| 3 .94885 62111 83631 62128 | $\sqrt{2} \sum_{n=0}^{\infty} 1/a_n$ |
| 1 .94935 88689 61792 78137 | $\sqrt{95}/5$ |
| 4 .94974 74683 05832 67081 | $\sqrt{98}/2$ |
| 0 .95105 65162 95153 57212 | $\cos 18^\circ = 0.25 \sqrt{10 + \sqrt{20}}$ |
| 0 .95215 53682 59014 85124 | $-\cos 10^4$ |
| 0 .95238 09523 80952 38095 | 20/21 |
| 1 .95256 24189 76663 59853 | $\sqrt{61}/4$ |
| 4 .95423 43560 01890 16338 | $Ei(2)$ |
| 0 .95441 45006 67807 18795 | $9e^{0.75}/16(e^{0.75} - 1)^2$ |
| 27 .95508 83982 30715 55134 | $-\cot 10^5$ |
| 0 .95526 77537 84334 31655 | $e \sum_{n=0}^{\infty} (-1)^n/a_n$ |
| 0 .95533 64891 25606 01964 | $\cos 0.3$ |
| 2 .95545 46859 60148 13656 | root of $e^x = 6.5x$ (other is 0.18513 ...) |
| 0 .95652 17391 30434 78261 | 22/23 |
| 0 .95742 71077 56338 10998 | $\sqrt{33}/6$ |
| 2 .95803 98915 49808 02128 | $\sqrt{35}/2$ |
| 0 .95825 18984 67989 81272 | root of $\cos x = 0.6x$ |
| 0 .95858 63567 28702 91217 | root of $xe^x = 2.5$ |
| 0 .95916 63046 62543 90832 | $\sqrt{23}/5$ |

(continued)

Table I (continued)

| | Ref. |
|------------------------------|------|
| 5 .95939 19075 79326 31051 | |
| 0 .95950 21757 44491 57894 | |
| 1 .95959 17942 26542 47856 | |
| 0 .95979 99643 99398 70262 | |
| 0 .96007 03624 05688 00269 | |
| 1 .96010 76074 36186 67028 | 36 |
| * 0 .96082 79654 49281 21782 | |
| 0 .96090 60278 36402 84933 | |
| 0 .96105 77570 39779 20622 | |
| 0 .96153 84615 38461 53846 | |
| 2 .96249 60684 07370 50867 | |
| 2 .96273 14724 38529 61670 | |
| 1 .96351 00260 21423 47944 | 10 |
| 0 .96355 81854 17192 96470 | |
| 0 .96402 75800 75816 88395 | |
| 0 .96428 57142 85714 28571 | |
| 4 .96511 42317 44276 30370 | |
| 0 .96551 72413 79310 34483 | |
| 0 .96592 58262 89068 28675 | |
| 0 .96774 19354 83870 96774 | |
| 0 .96824 58365 51854 22129 | |
| 1 .96850 19685 02952 75492 | |
| 3 .96862 69665 96885 88575 | |
| 0 .96891 24217 10644 78414 | |
| 0 .96894 61462 59369 38048 | 8 |
| 20 .96965 53016 44382 28917 | |
| 1 .96977 15603 59220 94435 | |
| 0 .96984 63103 92954 19203 | |
| 0 .97182 53158 07550 07848 | |
| 1 .97202 65943 66538 68086 | |
| 0 .97211 97704 46909 30594 | 8 |
| 0 .97229 16273 06661 20610 | |
| 0 .97270 15985 57643 99927 | |
| 0 .97295 50745 27656 65255 | |
| 0 .97336 02483 50782 72 | 8 |
| 4 .97344 04758 59806 79771 | |
| 0 .97353 61584 45750 16888 | 9 |
| 1 .97392 08802 17871 72377 | |
| 20 .97395 56107 30256 06970 | |
| 4 .97493 71855 33099 77367 | |

(continued)

Table I (continued)

| | | Ref. |
|-------------------------------|--|------|
| 1 .97550 57608 36856 45001 | $\sum_{p=2}^{239} \frac{1}{p}$ p = primes | |
| 0 .97814 76007 33805 63793 | $\cos 12^\circ = (1/16)(2\sqrt{5} - 2 + \sqrt{15} - 6\sqrt{5} + \sqrt{75} + 30\sqrt{5})$ | |
| 0 .97846 93929 30306 10374 | $\int_{0.25}^1 (\ln x)/(x-1) dx$ | |
| 0 .97942 39638 70553 89302 | $64\sqrt{2\pi}/3e^4$ | |
| 0 .97942 45222 58190 94121 | $0.25e^{0.5}/(e^{0.5} - 1)^2$ | |
| 0 .97979 58971 13271 23928 | $\sqrt{24}/5$ | |
| 1 .97989 89873 22333 06832 | $\sqrt{98}/5$ | |
| 0 .98025 81434 68547 19171 | $\sqrt{2} \ln 2$ | |
| 2 .98118 80507 09995 21981 | $0.5(\sqrt{7} + \sqrt{11})$ | |
| 2 .98142 39699 99719 59521 | $\sqrt{80}/3$ | |
| 0 .98219 33800 07238 77985 | $\tanh 0.75 \pi$ | |
| 0 .98279 37232 47329 06799 | $\arctan 1.5$ | |
| 0 .98349 30663 13250 66654 | $625\sqrt{10\pi}/24e^5$ | |
| 30 .98387 38316 74703 40553 | $\Gamma^2(1/6)$ | |
| 1 .98431 34832 98442 94288 | $\sqrt{63}/4$ | |
| 0 .98438 17812 13086 88397 | ber(1) Bessel Function | |
| 2 .98451 94055 20392 21056 | $F(1,4)$ | 36 |
| 0 .98480 77530 12208 05937 | $\cos 10^\circ$ | |
| 0 .98542 06469 27767 06919 | $\ln \Gamma(1/3)$ | |
| 0 .98544 97299 88460 18066 | $\sin 1.4$ | |
| 0 .98555 10912 97435 10410 | $\eta(6) = 31 \pi^6/30240$ | 8 |
| 0 .98601 32971 83269 34043 | $\sqrt{35}/6$ | |
| 0 .98661 42981 51430 28888 | $\tanh 2.5$ | |
| 0 .98691 71803 89355 66565 | $\cos x_1 \quad x_1 = 6.12125\dots = \text{root of } x \tan x + 1 = 0$ | |
| 0 .98696 04401 08935 86188 | $\pi^2/10$ | |
| 0 .98734 20782 72393 52447 | $\sqrt{2} [0,1,2,3,5,8, \dots]$ | 15, |
| 0 .98768 83405 95137 72619 | $\cos 9^\circ = (\sqrt{2} + \sqrt{10} + 2\sqrt{5} - \sqrt{5})/8$ | |
| 2 .98779 27135 58709 88173 | $e^{1.5}/1.5$ | |
| 0 .98784 90568 33810 78967 | $\ln K$ | 16 |
| 0 .98894 45517 41105 33611 | $\beta(4)$ | 8 |
| 1 .98997 48742 13239 90947 | $\sqrt{99}/5$ | |
| 2197 .99086 95437 08083 16537 | $e^{\pi\sqrt{6}}$ | |
| 3 .99214 90369 46613 26599 | $(\sqrt{14} + \sqrt{18})/2$ | |
| 0 .99259 38199 22830 28267 | $\eta(7)$ | |
| 0 .99452 18953 68273 33692 | $\cos 6^\circ = (\sqrt{3} + \sqrt{15} + \sqrt{10} - \sqrt{20})/8$ | |
| * 0 .99480 79024 29290 83794 | $e^{0.25}/16(e^{0.25} - 1)^2$ | |
| 0 .99500 41652 78025 76610 | $\cos 0.1$ | |
| 0 .99505 47536 86730 45133 | $\tanh 3$ | |
| * 0 .99615 78280 77088 06401 | $\beta(5) = 5\pi^5/1536$ | 8 |
| 0 .99623 30018 52647 89923 | $\eta(8) = 127\pi^8/1209600$ | |

(continued)

Table I (continued)

| | | Ref. |
|----------|---|------|
| 0 .99627 | 20762 20749 94426 | |
| 0 .99749 | 49866 04054 43094 | |
| 0 .99825 | 74244 67165 52919 | |
| 0 .99862 | 95347 54573 87378 | |
| 0 .99868 | 52222 18438 13544 | |
| 0 .99936 | 08074 38212 45189 | |
| 0 .99955 | 45078 90539 90950 | |
| 0 .99957 | 36030 41505 16434 | |
| 0 .99964 | 86610 85632 40558 | |
| 0 .99977 | 74660 34906 66194 | |
| 0 .99984 | 99902 46829 65634 | |
| 0 .99994 | 96841 87220 08982 | |
| 0 .99997 | 80465 51856 76650 | |
| 0 .99999 | 86624 54224 50683 | |
| 0 .99999 | 95893 93795 37069 | |
| 0 .99999 | 98222 13241 46958 | |
| 0 .99999 | 99999 88247 78473 | |
| 0 .99999 | 99999 99250 07260 | |
| | tanh π | |
| | sin 1.5 | |
| | $e^{\frac{\pi\sqrt{22}}{2}}$ - 2508951 | 6 |
| | cos 3° | 40 |
| | $\beta(6)$ | 8 |
| | -cos 10° | |
| | $\beta(7) = 61\pi^7/184320$ | 8 |
| | sin 1.6 | |
| | $9\pi\sqrt{2}/40$ | |
| | $e^{\frac{\pi\sqrt{43}}{2}}$ - 8847 36743 | 6 |
| | $\beta(8)$ | 8 |
| | $\beta(9) = 277\pi^9/8257536$ | 8 |
| | $e^{\frac{\pi\sqrt{37}}{2}}$ - 1991 48647 | 6 |
| | $e^{\frac{\pi\sqrt{67}}{2}}$ - 14 71979 52743 | 6 |
| | $2178309\sqrt{5}$ - 48 70846 | |
| | $e^{\frac{\pi\sqrt{58}}{2}}$ - 2 45912 57751 | 6 |
| | cos 1" | |
| | $e^{\frac{\pi\sqrt{163}}{2}}$ - 262 53741 26407 68743 | 6 |

Table II

| | | Ref. |
|-------------------------------|--|------|
| 0 . 00000 00356 64450 69761 | $1/11^7 - 1/13^7 + 1/23^7 - 1/37^7 + 1/47 + \dots$ | 29 |
| 0 . 00114 82955 91275 32580 | $E_1(5)$ | 9 |
| 13 . 00195 40840 57023 56412 | $e^{\pi\sqrt{5}/3}$ | |
| 0 . 00200 44675 74962 45066 | $1/3^9 + 1/5^9 + 1/7^9 + 1/11^9 + 1/13^9 + \dots$ all primes | 7 |
| 0 . 00828 38328 56133 59254 | $1/2^7 + 1/3^7 + 1/5^7 + 1/7^7 + 1/11^7 + \dots$ all primes | 7 |
| 2 . 01432 27334 58315 73658 | $\sum_{n=1}^{\infty} F_n/n!$ F_n = Fibonacci number | 31 |
| 1 . 01594 75296 63479 91446 | $(1 - 1/3^6)\zeta(6)$ | 8 |
| 2 . 01909 87135 33618 13697 | $\pi(\pi + 2)/8$ | |
| 306 . 01968 47852 81453 26274 | π^5 | |
| 0 . 03575 50174 83924 25713 | $1 + 1/3^5 + 1/5^5 + 1/7^5 + 1/11^5 + \dots$ | 7 |
| 0 . 04545 64330 04455 37263 | $-\text{Ci}(10)$ | 9 |
| 1 . 04814 70739 68204 94649 | $\sqrt{\ln 3}$ | 9 |
| 0 . 05534 75313 33133 60709 | $\text{Ci}(9)$ | 9 |
| 3 . 06552 18370 32502 96611 | $(9 + \sqrt{241})/8$ Root of $4x^2 - 9x - 10 = 0$ | |
| 0 . 06805 72438 93247 12620 | $-\text{Ci}(6)$ | 9 |
| 1 . 06969 38456 69906 85892 | $(\sqrt{54} - 2)/5$ Root of $5x^2 + 4x - 10 = 0$ | |
| 3 . 07002 74723 20129 56777 | $(5 + \sqrt{53})/4$ Root of $4x^2 - 10x - 7 = 0$ | |
| 4 . 07036 75169 75992 86208 | $(5 + \sqrt{52})/3$ Root of $3x^2 - 10x - 9 = 0$ | |
| 1 . 07477 27084 86752 00198 | $(\sqrt{189} - 3)/10$ Root of $5x^2 + 3x - 9 = 0$ | |
| 1 . 07518 38135 91930 41813 | $(\sqrt{185} - 5)/8$ Root of $4x^2 + 5x - 10 = 0$ | |
| 0 . 07669 52784 82184 51838 | $\text{Ci}(7)$ | 9 |
| 2 . 08009 08175 79420 12140 | $\psi(17/2)$ | 1 |
| 1 . 08062 48474 86569 73730 | $(\sqrt{41} - 1)/5$ Root of $5x^2 + 2x - 8 = 0$ | |
| 1 . 08113 88300 84189 66600 | $(\sqrt{10} - 1)/2$ Root of $4x^2 + 4x - 9 = 0$ | |
| 1 . 08743 42087 03791 72347 | $(\sqrt{141} - 1)/10$ Root of $5x^2 + x - 7 = 0$ | |
| 1 . 08808 74888 39953 13864 | $(\sqrt{137} - 3)/8$ Root of $4x^2 + 3x - 8 = 0$ | |
| 1 . 08876 04324 45132 64823 | $(\sqrt{133} - 5)/6$ Root of $3x^2 + 5x - 9 = 0$ | |
| 1 . 08945 41729 00136 80545 | $(\sqrt{129} - 7)/4$ Root of $2x^2 + 7x - 10 = 0$ | |
| 20 . 09206 35301 05951 06465 | $\text{Chi}(5)$ | 9 |
| 0 . 09629 12017 83626 00781 | $(\sqrt{29} - 5)/4$ Root of $4x^2 + 10x - 1 = 0$ | |
| 0 . 09716 75407 09727 06033 | $(\sqrt{28} - 5)/3$ Root of $3x^2 + 10x - 1 = 0$ | |
| 0 . 09807 62113 53315 94029 | $(\sqrt{27} - 5)/2$ Root of $2x^2 + 10x - 1 = 0$ | |
| 0 . 10102 05144 33643 80361 | $5 - \sqrt{24}$ Root of $x^2 - 10x + 1 = 0$ | |
| 0 . 10208 42383 43640 22920 | $(5 - \sqrt{23})/2$ Root of $2x^2 - 10x + 1 = 0$ | |
| 1 . 10315 66406 45243 18723 | $\psi(7/2)$ | 1 |
| 0 . 10319 47467 25523 48181 | $(5 - \sqrt{22})/3$ Root of $3x^2 - 10x + 1 = 0$ | |
| 0 . 10435 60762 61039 99835 | $(5 - \sqrt{21})/4$ Root of $4x^2 - 10x + 1 = 0$ | |
| 0 . 10498 75621 12089 02702 | $(\sqrt{101} - 9)/10$ Root of $5x^2 + 9x - 1 = 0$ | |
| 0 . 10557 28090 00084 12144 | $(5 - \sqrt{20})/5$ Root of $5x^2 - 10x + 1 = 0$ | |
| 0 . 10610 72252 24513 09022 | $(\sqrt{97} - 9)/8$ Root of $4x^2 + 9x - 1 = 0$ | |

(continued)

Table II (continued)

| | | Ref. |
|-------------|-------------------|--|
| 0 .10727 | 51268 32159 16596 | $(\sqrt{93} - 9)/6$ Root of $3x^2 + 9x - 1 = 0$ |
| 0 .10849 | 52830 14150 95283 | $(\sqrt{89} - 9)/4$ Root of $2x^2 + 9x - 1 = 0$ |
| 0 .10977 | 22286 46443 65500 | $(\sqrt{85} - 9)/2$ Root of $x^2 + 9x - 1 = 0$ |
| 0 .11251 | 78063 03938 96980 | $(9 - \sqrt{77})/2$ Root of $x^2 - 9x + 1 = 0$ |
| 0 .11399 | 90636 70617 20803 | $(9 - \sqrt{73})/4$ Root of $2x^2 - 9x + 1 = 0$ |
| 1246 .11448 | 60424 54414 72656 | Chi(10) 9 |
| 1246 .11449 | 01994 23344 41188 | Shi(10) 9 |
| 0 .11556 | 26895 13654 19124 | $(9 - \sqrt{69})/6$ Root of $3x^2 - 9x + 1 = 0$ |
| 0 .11651 | 51389 91168 00132 | $(\sqrt{21} - 4)/5$ Root of $5x^2 + 8x - 1 = 0$ |
| 0 .11721 | 77814 62681 29345 | $(9 - \sqrt{65})/8$ Root of $4x^2 - 9x + 1 = 0$ |
| 0 .11897 | 50324 09334 56059 | $(9 - \sqrt{61})/10$ Root of $5x^2 - 9x + 1 = 0$ |
| 0 .11962 | 97860 08000 32763 | Ci(3) 9 |
| 0 .11963 | 29811 80224 51741 | $(\sqrt{19} - 4)/3$ Root of $3x^2 + 8x - 1 = 0$ |
| 0 .12232 | 42434 26244 52626 | $\sum_1^{\infty} 1/(10^n - 1)$ |
| 0 .12243 | 38825 32009 55729 | Ci(8) 9 |
| 0 .12917 | 13066 13029 30721 | $(4 - \sqrt{14})/2$ Root of $2x^2 - 8x + 1 = 0$ |
| 0 .13066 | 23862 91807 48526 | $(\sqrt{69} - 7)/10$ Root of $5x^2 + 7x - 1 = 0$ |
| 1 .13118 | 99753 24249 98904 | $(16 \ln 4)/9 - 4/3$ |
| 0 .13148 | 29081 78670 23563 | $(4 - \sqrt{13})/3$ Root of $3x^2 - 8x + 1 = 0$ |
| 0 .13278 | 22185 37318 70655 | $(\sqrt{65} - 7)/8$ Root of $4x^2 + 7x - 1 = 0$ |
| 0 .13397 | 45962 15561 35324 | $(2 - \sqrt{3})/2$ Root of $4x^2 - 8x + 1 = 0$ |
| 0 .13504 | 16126 51109 06569 | $(\sqrt{61} - 7)/6$ Root of $3x^2 + 7x - 1 = 0$ |
| 2 .13622 | 91495 73721 63515 | $(3 + \sqrt{59})/5$ Root of $5x^2 - 6x - 10 = 0$ |
| 0 .13667 | 50419 28920 03018 | $(4 - \sqrt{11})/5$ Root of $5x^2 - 8x + 1 = 0$ |
| 0 .13745 | 86088 17687 42431 | $(\sqrt{57} - 7)/4$ Root of $2x^2 + 7x - 1 = 0$ |
| 1 .13838 | 99949 71661 86097 | $1 + 1/2^3 + 1/3^4 + 1/4^5 + 1/5^6 + \dots$ |
| 4 .13873 | 28290 31887 64957 | $(5 + \sqrt{55})/3$ Root of $3x^2 - 10x - 10 = 0$ |
| 0 .13904 | 51176 62188 12936 | $\sum_1^{\infty} 1/(9^n - 1)$ |
| 0 .14005 | 49446 40259 13555 | $(\sqrt{53} - 7)/2$ Root of $x^2 + 7x - 1 = 0$ |
| 2 .14064 | 14779 55609 99654 | $\psi(9)$ 1 |
| 0 .14098 | 16978 86930 41164 | -Ci(4) 9 |
| 1 .14568 | 32294 80096 03035 | $(\sqrt{209} - 3)/10$ Root of $5x^2 + 3x - 10 = 0$ |
| 0 .14589 | 80337 50315 45539 | $(7 - \sqrt{45})/2$ Root of $x^2 - 7x + 1 = 0$ |
| 0 .14833 | 14773 54788 27712 | $(\sqrt{14} - 3)/5$ Root of $5x^2 + 6x - 1 = 0$ |
| 0 .14921 | 89406 41787 82838 | $(7 - \sqrt{41})/4$ Root of $2x^2 - 7x + 1 = 0$ |
| 0 .15138 | 78188 65997 32328 | $(\sqrt{13} - 3)/4$ Root of $4x^2 + 6x - 1 = 0$ |
| 0 .15287 | 29116 16963 38517 | $(7 - \sqrt{37})/6$ Root of $3x^2 - 7x + 1 = 0$ |
| 1 .15646 | 59966 25053 62781 | $(\sqrt{46} - 1)/5$ Root of $5x^2 + 2x - 9 = 0$ |
| 0 .15692 | 96691 82746 41752 | $(7 - \sqrt{33})/8$ Root of $4x^2 - 7x + 1 = 0$ |
| 0 .15831 | 23951 77699 92456 | $(\sqrt{11} - 3)/2$ Root of $2x^2 + 6x - 1 = 0$ |

(continued)

Table II (continued)

| | | Ref. |
|------------------------------|---|------|
| 0 .16096 61843 15062 39681 | $\sum_{n=1}^{\infty} 1/(8^n - 1)$ | |
| 0 .16148 35192 86549 59687 | $(7 - \sqrt{29})/10$ Root of $5x^2 - 7x + 1 = 0$ | |
| 1 .16885 77540 44952 03802 | $(\sqrt{161} - 1)/10$ Root of $5x^2 + x - 8 = 0$ | |
| 0 .17082 03932 49936 90892 | $(\sqrt{45} - 5)/10$ Root of $5x^2 + 5x - 1 = 0$ | |
| 1 .17116 46096 06622 70618 | $(\sqrt{153} - 3)/8$ Root of $4x^2 + 3x - 9 = 0$ | |
| 1 .17359 90964 65382 58002 | $(\sqrt{145} - 5)/6$ Root of $3x^2 + 5x - 10 = 0$ | |
| 0 .17476 26392 99443 53642 | $1 + 1/3^3 + 1/5^3 + 1/7^3 + 1/11^3 + \dots$ all primes | 7 |
| 0 .17539 05296 79106 08581 | $(\sqrt{41} - 5)/8$ Root of $4x^2 + 5x - 1 = 0$ | |
| 5 .17617 49776 79906 27728 | $(9 + \sqrt{137})/4$ Root of $2x^2 - 9x - 7 = 0$ | |
| 0 .17712 43444 67704 70475 | $(3 - \sqrt{7})/2$ Root of $2x^2 - 6x + 1 = 0$ | |
| 1 .17741 00225 15474 69101 | $\sqrt{\ln 4}$ | |
| 0 .18046 04217 16369 94817 | $(\sqrt{37} - 5)/6$ Root of $3x^2 + 5x - 1 = 0$ | |
| 0 .18340 72671 69888 45914 | $-\ln D_{\infty}$ $D_{\infty} = 0.83242 \dots$ | 12 |
| 0 .18350 34190 72273 96727 | $(3 - \sqrt{6})/3$ Root of $3x^2 - 6x + 1 = 0$ | |
| 40 .18527 53558 03177 45509 | $Ei(5)$ | 9 |
| 0 .18614 06616 34507 16496 | $(\sqrt{33} - 5)/4$ Root of $2x^2 + 5x - 1 = 0$ | |
| 7 .18808 27289 76032 70208 | $\Gamma(\pi + 1)$ | |
| 0 .18925 47876 10007 30737 | $(\sqrt{31} - 5)/3$ Root of $3x^2 + 10x - 2 = 0$ | |
| 220 .18993 09346 07712 53626 | $Chi(8)$ | 9 |
| 220 .18996 86002 30556 46116 | $Shi(8)$ | 9 |
| 0 .19002 97496 56643 87862 | $-Ci(5)$ | 9 |
| 0 .19091 00624 10261 57820 | $\sum_{n=1}^{\infty} 1/(7^n - 1)$ | |
| 0 .19098 30056 25052 57590 | $(3 - \sqrt{5})/4$ Root of $4x^2 - 6x + 1 = 0$ | |
| 0 .19258 24035 67252 01563 | $(\sqrt{29} - 5)/2$ Root of $x^2 + 5x - 1 = 0$ | |
| 2 .19773 78764 02949 53317 | $\psi(19/2)$ | 1 |
| 3 .20256 24189 76663 59853 | $(5 + \sqrt{61})/4$ Root of $4x^2 - 10x - 9 = 0$ | |
| 0 .20376 82265 91831 17600 | $(\sqrt{113} - 9)/8$ Root of $4x^2 + 9x - 2 = 0$ | |
| 0 .20782 51276 59933 06387 | $(\sqrt{105} - 9)/6$ Root of $3x^2 + 9x - 2 = 0$ | |
| 1 .21034 78913 55001 97741 | $(\sqrt{241} - 1)/12$ Root of $6x^2 + x - 10 = 0$ | |
| 0 .21221 44504 49026 18044 | $(\sqrt{97} - 9)/4$ Root of $2x^2 + 9x - 2 = 0$ | |
| 2 .21327 45950 42155 59272 | $(7 + \sqrt{229})/10$ Root of $5x^2 - 7x - 9 = 0$ | |
| 0 .21370 03521 53108 81592 | $(5 - \sqrt{19})/3$ Root of $3x^2 - 10x + 2 = 0$ | |
| 0 .21460 18366 02551 69038 | $1 - \pi/4$ | |
| 0 .21525 04370 21530 19683 | $(\sqrt{7} - 2)/3$ Root of $3x^2 + 4x - 1 = 0$ | |
| 0 .21699 05660 28301 90566 | $(\sqrt{89} - 9)/2$ Root of $x^2 + 9x - 2 = 0$ | |
| 0 .21922 35935 95584 86254 | $(5 - \sqrt{17})/4$ Root of $2x^2 - 5x + 1 = 0$ | |
| 0 .21980 39027 18556 96601 | $(\sqrt{26} - 4)/5$ Root of $5x^2 + 8x - 2 = 0$ | |
| 0 .22540 33307 58516 62296 | $(5 - \sqrt{15})/5$ Root of $5x^2 - 10x + 2 = 0$ | |
| 0 .22799 81273 41234 41606 | $(9 - \sqrt{73})/2$ Root of $x^2 - 9x + 2 = 0$ | |
| 1 .22828 56857 08569 99960 | $(\sqrt{51} - 1)/5$ Root of $5x^2 + 2x - 10 = 0$ | |

(continued)

Table II (continued)

| | | Ref. |
|----------------------------|-----------------------------------|------------------------------|
| 0 .23013 85866 07809 85152 | $(\sqrt{22} - 4)/3$ | Root of $3x^2 + 8x - 2 = 0$ |
| 0 .23414 91301 34809 20649 | $\sum_{n=1}^{\infty} 1/(6^n - 1)$ | |
| 0 .23443 55629 25362 58691 | $(9 - \sqrt{65})/4$ | Root of $2x^2 - 9x + 2 = 0$ |
| 0 .23851 64807 13450 40313 | $(\sqrt{29} - 3)/10$ | Root of $5x^2 + 3x - 1 = 0$ |
| 0 .24169 42607 88208 38379 | $(9 - \sqrt{57})/6$ | Root of $3x^2 - 9x + 2 = 0$ |
| 0 .24339 81132 05660 38113 | $(\sqrt{89} - 7)/10$ | Root of $5x^2 + 7x - 2 = 0$ |
| 1 .24536 24047 07371 03172 | $(\sqrt{181} - 1)/10$ | Root of $5x^2 + x - 9 = 0$ |
| 2 .25175 25890 66721 10765 | $\psi(10)$ | |
| 3 .25499 40143 56944 63142 | $(7 + \sqrt{157})/6$ | Root of $3x^2 - 7x - 9 = 0$ |
| 0 .25733 39575 52921 86131 | $(\sqrt{73} - 7)/6$ | Root of $3x^2 + 7x - 2 = 0$ |
| 0 .25968 75762 56715 13135 | $(9 - \sqrt{41})/10$ | Root of $5x^2 - 9x + 2 = 0$ |
| 5 .26039 86446 98073 87003 | $(9 + \sqrt{145})/4$ | Root of $2x^2 - 9x - 8 = 0$ |
| 0 .26376 26158 25973 33443 | $(\sqrt{21} - 3)/6$ | Root of $3x^2 + 3x - 1 = 0$ |
| 0 .26556 44370 74637 41309 | $(\sqrt{65} - 7)/4$ | Root of $2x^2 + 7x - 2 = 0$ |
| 1 .26863 62411 79519 66011 | $\sqrt{\ln 5}$ | |
| 0 .27069 06325 74554 92225 | $(\sqrt{37} - 5)/4$ | Root of $4x^2 + 10x - 3 = 0$ |
| 0 .27177 97887 08134 71045 | $(\sqrt{19} - 3)/5$ | Root of $5x^2 + 6x - 2 = 0$ |
| 0 .27491 72176 35374 84862 | $(\sqrt{57} - 7)/2$ | Root of $x^2 + 7x - 2 = 0$ |
| 0 .27639 32022 50021 03036 | $(5 - \sqrt{5})/10$ | Root of $5x^2 - 5x + 1 = 0$ |
| 0 .27698 39649 48433 49029 | $(\sqrt{34} - 5)/3$ | Root of $3x^2 + 10x - 3 = 0$ |
| 2 .27797 33838 05950 00453 | $(7 + \sqrt{249})/10$ | Root of $5x^2 - 7x - 10 = 0$ |
| 0 .27924 07799 43873 55600 | $(4 - \sqrt{10})/3$ | Root of $3x^2 - 8x + 2 = 0$ |
| 0 .28077 64064 04415 13746 | $(\sqrt{17} - 3)/4$ | Root of $2x^2 + 3x - 1 = 0$ |
| 0 .28388 21814 15010 96106 | $(\sqrt{31} - 5)/2$ | Root of $2x^2 + 10x - 3 = 0$ |
| 0 .28743 42087 03791 72347 | $(\sqrt{141} - 9)/10$ | Root of $5x^2 + 9x - 3 = 0$ |
| 0 .28989 79485 56635 61964 | $(\sqrt{6} - 1)/5$ | Root of $5x^2 + 2x - 1 = 0$ |
| 0 .29289 32188 13452 47560 | $(2 - \sqrt{2})/2$ | Root of $2x^2 - 4x + 1 = 0$ |
| 0 .29472 70864 50068 40272 | $(\sqrt{129} - 9)/8$ | Root of $4x^2 + 9x - 3 = 0$ |
| 2 .29666 29547 09576 55423 | $(4 + \sqrt{56})/5$ | Root of $5x^2 - 8x - 8 = 0$ |
| 1 .29843 78812 83575 65676 | $(9 - \sqrt{41})/2$ | Root of $x^2 - 9x + 10 = 0$ |
| 1 .30129 02845 68573 00855 | $\pi(\sqrt{2} - 1)$ | |
| 0 .30173 38535 97972 45795 | $\sum_{n=1}^{\infty} 1/(5^n - 1)$ | |
| 2 .30300 10342 97686 37527 | $\psi(21/2)$ | |
| 0 .30622 57748 29854 96524 | $(\sqrt{65} - 5)/10$ | Root of $5x^2 + 5x - 2 = 0$ |
| 0 .30958 42401 76570 44543 | $5 - \sqrt{22}$ | Root of $x^2 - 10x + 3 = 0$ |
| 0 .31010 20514 43364 38036 | $(4 - \sqrt{6})/5$ | Root of $5x^2 - 8x + 2 = 0$ |
| 0 .31173 76914 89899 59581 | $(\sqrt{105} - 9)/4$ | Root of $2x^2 + 9x - 3 = 0$ |
| 0 .31355 28725 66004 38442 | $(\sqrt{31} - 4)/5$ | Root of $5x^2 + 8x - 3 = 0$ |
| 0 .31385 93383 65492 83504 | $(7 - \sqrt{33})/4$ | Root of $2x^2 - 7x + 2 = 0$ |
| 1 .31774 46878 75782 52030 | $(\sqrt{201} - 1)/10$ | Root of $5x^2 + x - 10 = 0$ |

(continued)

Table II (continued)

| | Ref. |
|----------------------------|---|
| 0 .31872 93044 08843 71215 | $(\sqrt{57} - 5)/8$ Root of $4x^2 + 5x - 2 = 0$ |
| 0 .32055 05282 29663 22388 | $(5 - \sqrt{19})/2$ Root of $2x^2 - 10x + 3 = 0$ |
| 0 .32182 53804 96477 49788 | $(\sqrt{93} - 9)/2$ Root of $x^2 + 9x - 3 = 0$ |
| 2 .32518 38135 91930 41813 | $(5 + \sqrt{185})/8$ Root of $4x^2 - 5x - 10 = 0$ |
| 1 .33856 61990 45850 32847 | $\sqrt{\ln 6}$ |
| 5 .34232 92192 13245 41237 | $(9 + \sqrt{153})/4$ Root of $2x^2 - 9x - 9 = 0$ |
| 0 .34403 06508 91055 01798 | $(\sqrt{109} - 7)/10$ Root of $5x^2 + 7x - 3 = 0$ |
| 0 .34668 80685 40962 57371 | $(9 - \sqrt{69})/2$ Root of $x^2 - 9x + 3 = 0$ |
| 0 .34833 14773 54788 27712 | $(\sqrt{14} - 2)/5$ Root of $5x^2 + 4x - 2 = 0$ |
| 1 .34838 31066 34907 16751 | $2\pi - \pi^2/2$ |
| 0 .34861 21811 34002 67672 | $(5 - \sqrt{13})/4$ Root of $4x^2 - 10x + 3 = 0$ |
| 0 .35078 10593 58212 17162 | $(\sqrt{41} - 5)/4$ Root of $2x^2 + 5x - 2 = 0$ |
| 2 .35175 25890 66721 10765 | $\psi(11)$ |
| 0 .35610 72252 24513 09022 | $(\sqrt{97} - 7)/8$ Root of $4x^2 + 7x - 3 = 0$ |
| 0 .35825 75694 95584 00066 | $(\sqrt{21} - 1)/10$ Root of $5x^2 + x - 1 = 0$ |
| 0 .35961 17967 97792 43127 | $(7 - \sqrt{17})/8$ Root of $4x^2 - 7x + 2 = 0$ |
| 0 .36092 08434 32739 89633 | $(\sqrt{37} - 5)/3$ Root of $3x^2 + 10x - 4 = 0$ |
| 2 .36204 99351 81330 87883 | $(4 + \sqrt{61})/5$ Root of $5x^2 - 8x - 9 = 0$ |
| 0 .36602 54037 84438 64676 | $(\sqrt{3} - 1)/2$ Root of $2x^2 + 2x - 1 = 0$ |
| 0 .36754 44679 66324 13360 | $(5 - \sqrt{10})/5$ Root of $5x^2 - 10x + 3 = 0$ |
| 0 .36885 77540 44952 03802 | $(\sqrt{161} - 9)/10$ Root of $5x^2 + 9x - 4 = 0$ |
| 0 .36992 40762 15481 21833 | $(\sqrt{85} - 7)/6$ Root of $3x^2 + 7x - 3 = 0$ |
| 0 .37228 13232 69014 32993 | $(\sqrt{33} - 5)/2$ Root of $x^2 + 5x - 2 = 0$ |
| 2 .37365 46754 40107 76432 | $\sum_{n=1}^{\infty} 1/(n^2 - n + 2) = (2\pi/\sqrt{7})\tanh(\pi\sqrt{7}/2)$ |
| 0 .37979 58971 13271 23928 | $(\sqrt{24} - 3)/5$ Root of $5x^2 + 6x - 3 = 0$ |
| 0 .38019 93223 49036 93502 | $(\sqrt{145} - 9)/8$ Root of $4x^2 + 9x - 4 = 0$ |
| 0 .38600 09363 29382 79197 | $(\sqrt{73} - 7)/4$ Root of $2x^2 + 7x - 3 = 0$ |
| 2 .38619 46792 57460 27871 | $\pi(\pi^2 + 2\pi - 4)/16$ |
| 2 .38660 68747 31850 55226 | $(9 + \sqrt{221})/10$ Root of $5x^2 - 9x - 7 = 0$ |
| 1 .38887 09263 59528 90151 | $\psi(9/2)$ |
| 0 .39296 94486 00091 20363 | $(\sqrt{129} - 9)/6$ Root of $3x^2 + 9x - 4 = 0$ |
| 1 .39495 88341 79458 25241 | $\sqrt{\ln 7}$ |
| 0 .39564 39237 38960 00165 | $(\sqrt{21} - 3)/4$ Root of $4x^2 + 6x - 3 = 0$ |
| 2 .39823 91295 35781 61337 | $\psi(23/2)$ |
| 4 .39827 23894 47946 39597 | $e\tau \quad \tau = (1 + \sqrt{5})/2$ |
| 1 .40496 29462 08145 27863 | $\pi/\sqrt{5}$ |
| 0 .40512 48379 53327 19706 | $(\sqrt{61} - 7)/2$ Root of $x^2 + 7x - 3 = 0$ |
| 3 .40586 99863 09566 92470 | Root of $\Gamma(x) = 3$ |
| 0 .40673 66430 75800 20775 | $\sin 24^\circ = (\sqrt{3} + \sqrt{15} - \sqrt{10} - 2\sqrt{5})/8$ |
| 2 .40692 33317 82309 93684 | $(\pi\sqrt{2}/24)e^{\pi\sqrt{6}/3}$ |

(continued)

Table II (continued)

| | Ref. |
|-----------------------------------|------|
| 0 .40692 96691 82746 41752 | |
| 0 .40753 64531 83662 35200 | |
| 0 .40964 98555 98112 20915 | |
| 0 .41886 11699 15810 33400 | |
| 0 .42109 76860 33423 77730 | |
| 0 .42195 44457 29288 73100 | |
| 5 .42214 43851 12380 09505 | |
| 0 .42264 97308 10374 23549 | |
| 0 .42298 08287 74864 99570 | |
| 0 .42442 89008 98052 36087 | |
| 1 .42468 75512 80506 53577 | |
| 2 .42480 76809 27192 07209 | |
| 0 .42539 05296 79106 08581 | |
| 0 .42705 09831 24842 27231 | |
| 0 .43050 08740 43060 39367 | |
| 0 .43578 16691 60054 72218 | |
| 0 .43649 16731 03708 44259 | |
| 0 .43844 71871 91169 72509 | |
| 0 .44151 84401 12252 88800 | |
| 0 .44174 24305 04415 99934 | |
| 1 .44202 68866 00883 01706 | |
| 2 .44266 16799 75812 01674 | |
| 0 .44300 04681 64691 39598 | |
| 0 .44536 24047 07371 03172 | |
| 0 .45141 62296 45136 46983 | |
| 2 .45241 74696 26002 37289 | |
| 2 .45266 69226 46914 52191 | |
| 0 .45376 82265 91831 17600 | |
| 1 .45459 66142 48093 59061 | |
| 0 .45742 71077 56338 10998 | |
| 0 .45803 98915 49808 02128 | |
| 0 .45861 87348 50890 15550 | |
| 0 .46107 21925 56190 04752 | |
| 2 .46237 81322 79807 67369 | |
| 0 .46332 49580 71079 96982 | |
| 0 .46481 62415 12003 56896 | |
| 0 .46837 49459 84442 39902 | |
| 0 .46887 11258 50725 17382 | |
| 0 .47177 97887 08134 71045 | |
| 0 .47480 96336 32684 12029 | |
| (9 - $\sqrt{33}$) / 8 | |
| ($\sqrt{113}$ - 9) / 4 | |
| $10\pi - \pi^3$ | |
| (4 - $\sqrt{10}$) / 2 | |
| $\sum_{n=1}^{\infty} 1/(4^n - 1)$ | |
| ($\sqrt{85}$ - 5) / 10 | |
| (9 + $\sqrt{161}$) / 4 | |
| (3 - $\sqrt{3}$) / 3 | |
| Si(2) | |
| ($\sqrt{97}$ - 9) / 2 | |
| Si(6) | |
| (4 + $\sqrt{66}$) / 5 | |
| ($\sqrt{41}$ - 3) / 8 | |
| ($\sqrt{45}$ - 5) / 4 | |
| ($\sqrt{28}$ - 4) / 3 | |
| ($\sqrt{129}$ - 7) / 10 | |
| ($\sqrt{15}$ - 3) / 2 | |
| (5 - $\sqrt{17}$) / 2 | |
| ($\sqrt{40}$ - 5) / 3 | |
| (9 - $\sqrt{21}$) / 10 | |
| $\sqrt{1.08}$ | |
| $\psi(12)$ | |
| ($\sqrt{73}$ - 5) / 8 | |
| ($\sqrt{181}$ - 9) / 10 | |
| (4 - $\sqrt{7}$) / 3 | |
| (9 + $\sqrt{241}$) / 10 | |
| Chi(2) | |
| ($\sqrt{113}$ - 7) / 8 | |
| Si(7) | |
| ($\sqrt{33}$ - 3) / 6 | |
| ($\sqrt{35}$ - 5) / 2 | |
| (7 - $\sqrt{37}$) / 2 | |
| ($\sqrt{161}$ - 9) / 8 | |
| ($\pi/48$)e ^{2π/√3} | |
| ($\sqrt{11}$ - 1) / 5 | |
| (5 - $\sqrt{13}$) / 3 | |
| ($\sqrt{61}$ - 5) / 6 | |
| (9 - $\sqrt{65}$) / 2 | |
| ($\sqrt{19}$ - 2) / 5 | |
| ($\sqrt{97}$ - 7) / 6 | |

(continued)

Table II (continued)

| | | Ref. |
|------------------------------|---|------|
| 0 . 47703 29614 26900 80625 | $(\sqrt{29} - 3)/5$ Root of $5x^2 + 6x - 4 = 0$ | |
| 11 . 47797 31099 61418 80827 | $-\sum_2^{\infty} (-1)^n / \ln n n$ | |
| 0 . 47905 70145 06319 53911 | $(\sqrt{141} - 9)/6$ Root of $3x^2 + 9x - 5 = 0$ | |
| 0 . 48062 48474 86569 73730 | $(\sqrt{41} - 4)/5$ Root of $5x^2 + 8x - 5 = 0$ | |
| 1 . 48230 38073 67511 07584 | $\sqrt{\ln 9}$ | |
| 2 . 48519 56512 74912 04815 | $\psi(25/2)$ | 1 |
| 2 . 51554 94421 40351 20938 | $(9 + \sqrt{261})/10$ Root of $5x^2 - 9x - 9 = 0$ | |
| 1 . 51742 71293 85146 35086 | $\sqrt{\ln 10}$ | |
| 0 . 51774 46878 75782 52030 | $(\sqrt{201} - 9)/10$ Root of $5x^2 + 9x - 6 = 0$ | |
| 0 . 51914 61747 67333 55078 | $(\sqrt{43} - 5)/3$ Root of $3x^2 + 10x - 6 = 0$ | |
| 0 . 52065 55615 73370 29519 | $(\sqrt{149} - 7)/10$ Root of $5x^2 + 7x - 5 = 0$ | |
| 0 . 52258 81209 43340 64071 | $(\sqrt{31} - 4)/3$ Root of $3x^2 + 8x - 5 = 0$ | |
| 0 . 52469 50765 95959 83832 | $(\sqrt{105} - 5)/10$ Root of $5x^2 + 5x - 4 = 0$ | |
| 0 . 52493 78105 60445 13511 | $(\sqrt{101} - 9)/2$ Root of $x^2 + 9x - 5 = 0$ | |
| 2 . 52599 50133 09145 35007 | $\psi(13)$ | 1 |
| 0 . 53066 23862 91807 48526 | $(\sqrt{69} - 3)/10$ Root of $5x^2 + 3x - 3 = 0$ | |
| 0 . 53112 88741 49274 82618 | $(\sqrt{65} - 7)/2$ Root of $x^2 + 7x - 4 = 0$ | |
| 0 . 53518 37584 87996 43104 | $(\sqrt{13} - 2)/3$ Root of $3x^2 + 4x - 3 = 0$ | |
| 0 . 53801 68369 56258 84063 | $(\sqrt{177} - 9)/8$ Root of $4x^2 + 9x - 6 = 0$ | |
| 0 . 54031 24237 43284 86865 | $(\sqrt{41} - 1)/10$ Root of $5x^2 + x - 2 = 0$ | |
| 0 . 54138 12651 49109 84450 | $(\sqrt{37} - 5)/2$ Root of $x^2 + 5x - 3 = 0$ | |
| 0 . 54257 28922 43661 89002 | $(9 - \sqrt{33})/6$ Root of $3x^2 - 9x + 4 = 0$ | |
| 0 . 54472 70864 50068 40272 | $(\sqrt{129} - 7)/8$ Root of $4x^2 + 7x - 5 = 0$ | |
| 0 . 54858 37703 54863 53017 | $(\sqrt{7} - 1)/3$ Root of $3x^2 + 2x - 2 = 0$ | |
| 1 . 54993 12449 44674 13727 | $Si(5)$ | 9 |
| 0 . 55278 64045 00042 06072 | $(5 - \sqrt{5})/5$ Root of $5x^2 - 10x + 4 = 0$ | |
| 0 . 55424 76415 07075 47642 | $(\sqrt{89} - 5)/8$ Root of $4x^2 + 5x - 4 = 0$ | |
| 0 . 55646 59966 25053 62781 | $(\sqrt{46} - 4)/5$ Root of $5x^2 + 8x - 6 = 0$ | |
| 0 . 55825 75694 95584 00066 | $(1 + \sqrt{21})/10$ Root of $5x^2 - x - 1 = 0$ | |
| 0 . 56155 28128 08830 27491 | $(\sqrt{17} - 3)/2$ Root of $x^2 + 3x - 2 = 0$ | |
| 0 . 56350 83268 96291 55741 | $(5 - \sqrt{15})/2$ Root of $2x^2 - 10x + 5 = 0$ | |
| 2 . 56509 96603 23728 19109 | $\pi\sqrt{6}/3$ | |
| 2 . 56519 56512 74912 04815 | $\psi(27/2)$ | 1 |
| 0 . 56574 14540 89335 11781 | $(7 - \sqrt{13})/6$ Root of $3x^2 - 7x + 3 = 0$ | |
| 0 . 56619 03789 69060 09417 | $(\sqrt{34} - 3)/5$ Root of $5x^2 + 6x - 5 = 0$ | |
| 0 . 56872 93044 08843 71215 | $(\sqrt{57} - 3)/8$ Root of $4x^2 + 3x - 3 = 0$ | |
| 0 . 57002 74723 20129 56777 | $(\sqrt{53} - 5)/4$ Root of $4x^2 + 10x - 7 = 0$ | |
| 0 . 57338 44181 51758 36329 | $(\sqrt{109} - 7)/6$ Root of $3x^2 + 7x - 5 = 0$ | |
| 1 . 57418 68217 06942 05208 | $Si(8)$ | 9 |
| 0 . 57556 36164 97977 70407 | $\sum_0^{\infty} (-1)^n n!/(2n)!$ | |

(continued)

Table II (continued)

| | Ref. |
|---|------|
| 2 .57630 54614 24021 01284 | |
| 0 .57979 58971 13271 23928 | |
| 0 .58660 68747 31850 55226 | |
| 0 .58945 41729 00136 80545 | |
| 0 .59066 72908 86255 19465 | |
| 1 .59229 65364 69326 57566 | |
| 0 .59307 03308 17253 58248 | |
| 0 .59410 99943 75089 37969 | |
| 0 .59487 51620 46672 80294 | |
| 0 .59629 12017 83626 00781 | |
| 0 .59696 55555 78483 22458 | |
| 2 .60291 80902 32222 27315 | |
| 1 .60541 29768 02694 84858 | |
| 1 .60669 51524 15291 76378 | |
| 0 .60849 52830 14150 95283 | |
| 0 .60961 17967 97792 43127 | |
| 0 .61031 72982 81766 82362 | |
| 1 .61109 31485 81751 12373 | |
| 0 .61155 54986 81225 56355 | |
| 0 .61257 41132 77206 88933 | |
| 1 .62229 46066 03504 34354 | |
| 0 .62249 89991 99199 10292 | |
| 0 .62347 53829 79799 19161 | |
| 0 .62771 86767 30985 67007 | |
| 0 .62828 56857 08569 99960 | |
| 1 .62847 37129 01584 44706 | |
| 0 .63019 93223 49036 93502 | |
| 19 .63087 44700 56220 02265 | |
| 0 .63397 45962 15561 35324 | |
| 0 .63745 86088 17687 42431 | |
| 0 .64038 82032 02207 56873 | |
| 0 .64087 20964 44188 17002 | |
| 0 .64339 81132 05660 38113 | |
| 0 .64899 95996 79679 64117 | |
| 0 .64921 89406 41787 82838 | |
| 1 .65068 26068 16254 39108 | |
| 0 .65138 78188 65997 32328 | |
| 0 .65241 74696 26002 37289 | |
| 0 .65331 19314 59037 42629 | |
| 0 .65583 16008 67491 60560 | |
| (9 + $\sqrt{281}$) / 10 Root of $5x^2 - 9x - 10 = 0$ | |
| ($\sqrt{24} - 2$) / 5 Root of $5x^2 + 4x - 4 = 0$ | |
| ($\sqrt{221} - 9$) / 10 Root of $5x^2 + 9x - 7 = 0$ | |
| ($\sqrt{129} - 9$) / 4 Root of $2x^2 + 9x - 6 = 0$ | |
| ($\sqrt{73} - 5$) / 6 Root of $3x^2 + 5x - 4 = 0$ | |
| $\sum_{n=0}^{\infty} n!/(2n)! = 1 + e^{1/4} \int_0^{1/2} e^{-x^2} dx$ | |
| ($\sqrt{33} - 1$) / 8 Root of $4x^2 + x - 2 = 0$ | |
| ($\sqrt{46} - 5$) / 3 Root of $3x^2 + 10x - 7 = 0$ | |
| (9 - $\sqrt{61}$) / 2 Root of $x^2 - 9x + 5 = 0$ | |
| ($\sqrt{29} - 3$) / 4 Root of $4x^2 + 6x - 5 = 0$ | |
| $1 - 1/2 + 1/3^2 - 1/4^3 + 1/5^4 - \dots$ | |
| $\psi(14)$ | 1 |
| $Si(2)$ | 9 |
| $\sum_{n=1}^{\infty} 1/(2^n - 1)$ | |
| ($\sqrt{89} - 7$) / 4 Root of $2x^2 + 7x - 5 = 0$ | |
| (9 - $\sqrt{17}$) / 8 Root of $4x^2 - 9x + 4 = 0$ | |
| ($\sqrt{34} - 4$) / 3 Root of $3x^2 + 8x - 6 = 0$ | |
| $\psi(11/2)$ | 1 |
| ($\sqrt{193} - 9$) / 8 Root of $4x^2 + 9x - 7 = 0$ | |
| (5 - $\sqrt{10}$) / 3 Root of $3x^2 - 10x + 5 = 0$ | |
| $(2\pi/\sqrt{15}) \tanh(\pi\sqrt{15}/2)$ | |
| ($\sqrt{39} - 5$) / 2 Root of $2x^2 + 10x - 7 = 0$ | |
| ($\sqrt{105} - 9$) / 2 Root of $x^2 + 9x - 6 = 0$ | |
| (7 - $\sqrt{33}$) / 2 Root of $x^2 - 7x + 4 = 0$ | |
| ($\sqrt{51} - 4$) / 5 Root of $5x^2 + 8x - 7 = 0$ | |
| $1 + 1/2 + 1/3^2 + 1/4^3 + 1/5^4 + \dots$ | |
| ($\sqrt{145} - 7$) / 8 Root of $4x^2 + 7x - 6 = 0$ | |
| $Ei(4)$ | 9 |
| (3 - $\sqrt{3}$) / 2 Root of $2x^2 - 6x + 3 = 0$ | |
| ($\sqrt{57} - 5$) / 4 Root of $2x^2 + 5x - 4 = 0$ | |
| (1 + $\sqrt{17}$) / 8 Root of $4x^2 - x - 1 = 0$ | |
| ($\sqrt{165} - 9$) / 6 Root of $3x^2 + 9x - 7 = 0$ | |
| ($\sqrt{89} - 3$) / 10 Root of $5x^2 + 3x - 4 = 0$ | |
| ($\sqrt{39} - 3$) / 5 Root of $5x^2 + 6x - 6 = 0$ | |
| (9 - $\sqrt{41}$) / 4 Root of $2x^2 - 9x + 5 = 0$ | |
| $-Y_2(1)$ Bessel Function | |
| ($\sqrt{13} - 1$) / 4 Root of $4x^2 + 2x - 3 = 0$ | |
| ($\sqrt{241} - 9$) / 10 Root of $5x^2 + 9x - 8 = 0$ | |
| ($\sqrt{69} - 7$) / 2 Root of $x^2 + 7x - 5 = 0$ | |
| $-\sum_{n=1}^{\infty} (-1)^n n! / n^n$ | |

(continued)

Table II (continued)

| | | Ref. |
|----------------------------|---|------|
| 0 .65586 88457 44949 79790 | $(\sqrt{105} - 5)/8$ Root of $4x^2 + 5x - 5 = 0$ | |
| 1 .65834 75942 18874 04833 | $S_1(10)$ | |
| 3 .66403 27972 06446 15569 | Root of $\Gamma(x) = 4$ | |
| 1 .66504 00758 29602 49511 | $S_1(9)$ | |
| 2 .67434 66616 60793 70172 | $\psi(15)$ | 1 |
| 0 .67477 27084 86752 00198 | $(\sqrt{189} - 7)/10$ Root of $5x^2 + 7x - 7 = 0$ | |
| 0 .67617 49776 79906 27728 | $(\sqrt{137} - 9)/4$ Root of $2x^2 + 9x - 7 = 0$ | |
| 0 .67703 29614 26900 80625 | $(\sqrt{29} - 2)/5$ Root of $5x^2 + 4x - 5 = 0$ | |
| 0 .67944 94717 70336 77612 | $(\sqrt{19} - 3)/2$ Root of $2x^2 + 6x - 5 = 0$ | |
| 1 .67999 05609 88901 16061 | $e/\tau \quad \tau = (1 + \sqrt{5})/2$ | |
| 0 .68102 49675 90665 43941 | $(\sqrt{61} - 1)/10$ Root of $5x^2 + x - 3 = 0$ | |
| 0 .68210 40368 50120 03794 | $(\sqrt{209} - 9)/8$ Root of $4x^2 + 9x - 8 = 0$ | |
| 0 .68215 35026 05238 06676 | $\sum_{n=1}^{\infty} 1/(3^n - 1)$ | |
| 0 .68614 06616 34507 16496 | $(\sqrt{33} - 3)/4$ Root of $2x^2 + 3x - 3 = 0$ | |
| 0 .68989 79485 56635 61964 | $(1 + \sqrt{6})/5$ Root of $5x^2 - 2x - 1 = 0$ | |
| 0 .69098 30056 25052 57590 | $(5 - \sqrt{5})/4$ Root of $4x^2 - 10x + 5 = 0$ | |
| 0 .69300 04681 64691 39598 | $(\sqrt{73} - 3)/8$ Root of $4x^2 + 3x - 4 = 0$ | |
| 0 .69425 41767 66073 22967 | $(\sqrt{37} - 4)/3$ Root of $3x^2 + 8x - 7 = 0$ | |
| 0 .69666 29547 09576 55423 | $(\sqrt{56} - 4)/5$ Root of $5x^2 + 8x - 8 = 0$ | |
| 0 .69722 43622 68005 35344 | $(5 - \sqrt{13})/2$ Root of $x^2 - 5x + 3 = 0$ | |
| 0 .70156 21187 16424 34324 | $(\sqrt{41} - 5)/2$ Root of $x^2 + 5x - 4 = 0$ | |
| 0 .70256 24189 76663 59853 | $(\sqrt{61} - 5)/4$ Root of $4x^2 + 10x - 9 = 0$ | |
| 0 .70315 66406 45243 18723 | $\psi(5/2)$ | 1 |
| 0 .70325 74095 48814 55167 | $(\sqrt{85} - 5)/6$ Root of $3x^2 + 5x - 5 = 0$ | |
| 0 .70415 94578 79229 54801 | $(\sqrt{145} - 5)/10$ Root of $5x^2 + 5x - 6 = 0$ | |
| 2 .70823 52425 90365 43257 | $\psi(31/2)$ | 1 |
| 0 .71107 21925 56190 04752 | $(\sqrt{161} - 7)/8$ Root of $4x^2 + 7x - 7 = 0$ | |
| 0 .71221 44504 49026 18044 | $(\sqrt{97} - 7)/4$ Root of $2x^2 + 7x - 6 = 0$ | |
| 0 .71554 94421 40351 20938 | $(\sqrt{261} - 9)/10$ Root of $5x^2 + 9x - 9 = 0$ | |
| 0 .71651 51389 91168 00132 | $(\sqrt{21} - 1)/5$ Root of $5x^2 + 2x - 4 = 0$ | |
| 0 .71735 57826 08345 12084 | $(\sqrt{177} - 9)/6$ Root of $3x^2 + 9x - 8 = 0$ | |
| 0 .71922 35935 95584 86254 | $(7 - \sqrt{17})/4$ Root of $2x^2 - 7x + 4 = 0$ | |
| 0 .72015 32544 55275 08988 | $(\sqrt{109} - 9)/2$ Root of $x^2 + 9x - 7 = 0$ | |
| 0 .72075 92200 56126 44400 | $(\sqrt{10} - 1)/3$ Root of $3x^2 + 2x - 3 = 0$ | |
| 0 .72360 67977 49978 96964 | $(5 + \sqrt{5})/10$ Root of $5x^2 - 5x + 1 = 0$ | |
| 0 .72474 48713 91589 04910 | $(\sqrt{6} - 1)/2$ Root of $4x^2 + 4x - 5 = 0$ | |
| 0 .72508 27823 64625 15138 | $(9 - \sqrt{57})/2$ Root of $x^2 - 9x + 6 = 0$ | |
| 0 .72664 99161 42159 93965 | $(\sqrt{44} - 3)/5$ Root of $5x^2 + 6x - 7 = 0$ | |
| 0 .73623 73841 74026 66557 | $(9 - \sqrt{21})/6$ Root of $3x^2 - 9x + 5 = 0$ | |
| 0 .73703 41836 42659 52875 | $(\sqrt{52} - 5)/3$ Root of $3x^2 + 10x - 9 = 0$ | |

(continued)

Table II (continued)

| | | Ref. |
|-----------------------------|--|------|
| 0 .74031 24237 43284 86865 | $(1 + \sqrt{41})/10$ Root of $5x^2 - x - 2 = 0$ | |
| 2 .74101 33283 27460 36839 | $\psi(16)$ | 1 |
| 0 .74102 79215 23577 35584 | $\sum_{n=1}^{\infty} (-1)^n F_n / n!$ F_n = Fibonacci number | 31 |
| 0 .74403 06508 91055 01798 | $(\sqrt{109} - 3)/10$ Root of $5x^2 + 3x - 5 = 0$ | |
| 1 .74471 60499 09719 88354 | $\pi^2 \sqrt{2}/8$ | |
| 0 .74568 32294 80096 03035 | $(\sqrt{209} - 7)/10$ Root of $5x^2 + 7x - 8 = 0$ | |
| 95 .75231 39268 84892 80742 | Chi (7) | 9 |
| 95 .75242 94086 16503 14564 | Shi (7) | 9 |
| 0 .75542 70991 11799 31489 | $(\sqrt{133} - 7)/6$ Root of $3x^2 + 7x - 7 = 0$ | |
| 1 .75820 31389 49053 05811 | $S_1(4)$ | 9 |
| 0 .75830 57392 11791 61621 | $(\sqrt{57} - 3)/6$ Root of $3x^2 + 3x - 4 = 0$ | |
| 0 .75983 56856 51592 54733 | $3-1/4$ | |
| 0 .76039 86446 98073 87003 | $(\sqrt{145} - 9)/4$ Root of $2x^2 + 9x - 8 = 0$ | |
| 0 .76204 99351 81330 87883 | $(\sqrt{61} - 4)/5$ Root of $5x^2 + 8x - 9 = 0$ | |
| 0 .76556 44370 74637 41309 | $(\sqrt{65} - 5)/4$ Root of $2x^2 + 5x - 5 = 0$ | |
| 0 .76619 03789 69060 09417 | $(\sqrt{34} - 2)/5$ Root of $5x^2 + 4x - 6 = 0$ | |
| 0 .76759 18792 43998 21552 | $(1 + \sqrt{13})/6$ Root of $3x^2 - x - 1 = 0$ | |
| 1 .76819 80781 53244 98413 | $\prod_{p=2}^{\infty} 1/(p^2 - 1)$ p = all primes | |
| 0 .77069 06325 74554 92225 | $(\sqrt{37} - 3)/4$ Root of $4x^2 + 6x - 7 = 0$ | |
| 0 .77200 18726 58765 58394 | $(\sqrt{73} - 7)/2$ Root of $x^2 + 7x - 6 = 0$ | |
| 2 .77275 13716 22623 49709 | $\psi(33/2)$ | 1 |
| 1 .77370 30613 64587 49994 | $\pi^2/\sqrt{2} - 4\pi(\sqrt{2} - 1)$ | |
| 0 .77485 17734 45586 22133 | $(\sqrt{40} - 4)/3$ Root of $3x^2 + 8x - 8 = 0$ | |
| 0 .77525 51286 08410 95090 | $(4 - \sqrt{6})/2$ Root of $2x^2 - 8x + 5 = 0$ | |
| 0 .77630 54614 24021 01284 | $(\sqrt{281} - 9)/10$ Root of $5x^2 + 9x - 10 = 0$ | |
| 0 .77871 92621 51000 32617 | $(\sqrt{43} - 5)/2$ Root of $2x^2 + 10x - 9 = 0$ | |
| 1 .77930 57612 79915 61379 | $4\pi(\pi - 3)$ | |
| 0 .78077 64064 04415 13746 | $(\sqrt{17} - 1)/4$ Root of $2x^2 + x - 2 = 0$ | |
| 0 .78121 28213 00288 71655 | $-Y_1(1)$ Bessel Function | |
| 0 .78452 32578 66512 90201 | $(\sqrt{165} - 5)/10$ Root of $5x^2 + 5x - 7 = 0$ | |
| 0 .78474 95629 78469 80317 | $(5 - \sqrt{7})/3$ Root of $3x^2 - 10x + 6 = 0$ | |
| 0 .78629 96478 46891 18408 | $(\sqrt{19} - 2)/3$ Root of $3x^2 + 4x - 5 = 0$ | |
| 0 .78801 68369 56258 84063 | $(\sqrt{177} - 7)/8$ Root of $4x^2 + 7x - 8 = 0$ | |
| 1 .79291 13303 99932 94192 | $\psi(13/2)$ | 1 |
| 1 .79320 95469 54886 07095 | $\pi^2/2 - \pi$ | 1 |
| 2 .80351 33283 27460 36839 | $\psi(17)$ | |
| 0 .80424 76415 07075 47642 | $(\sqrt{89} - 3)/8$ Root of $4x^2 + 3x - 5 = 0$ | |
| 0 .80539 94956 98554 31624 | $(\sqrt{55} - 5)/3$ Root of $3x^2 + 10x - 10 = 0$ | |
| 0 .80741 75964 32747 98437 | $(7 - \sqrt{29})/2$ Root of $x^2 - 7x + 5 = 0$ | |
| 0 .80814 29669 66017 45362 | $(\sqrt{97} - 5)/6$ Root of $3x^2 + 5x - 6 = 0$ | |

(continued)

Table II (continued)

| | | Ref. |
|----------------------------|--|------|
| 0 .81173 76914 89899 59581 | $(\sqrt{105} - 7)/4$ Root of $2x^2 + 7x - 7 = 0$ | |
| 0 .81327 45950 42155 59272 | $(\sqrt{229} - 7)/10$ Root of $5x^2 + 7x - 9 = 0$ | |
| 9 .81354 75588 23185 55808 | Chi (4) | |
| 0 .81385 93383 65492 83504 | $(9 - \sqrt{33})/4$ Root of $2x^2 - 9x + 6 = 0$ | |
| 0 .81507 29063 67324 70400 | $(\sqrt{113} - 9)/2$ Root of $x^2 + 9x - 8 = 0$ | |
| 0 .81552 18370 32502 96611 | $(\sqrt{241} - 9)/8$ Root of $4x^2 + 9x - 10 = 0$ | |
| 0 .81980 39027 18556 96601 | $(\sqrt{26} - 1)/5$ Root of $5x^2 + 2x - 5 = 0$ | |
| 0 .82287 56555 32295 29525 | $(\sqrt{7} - 1)/2$ Root of $2x^2 + 2x - 3 = 0$ | |
| 0 .82480 76809 27192 07209 | $(\sqrt{66} - 4)/5$ Root of $5x^2 + 8x - 10 = 0$ | |
| 0 .83255 46111 57697 75635 | $\sqrt{\ln 2}$ | |
| 0 .83578 16691 60054 72218 | $(\sqrt{129} - 3)/10$ Root of $5x^2 + 3x - 6 = 0$ | |
| 4 .83620 00029 45036 96288 | $(e\tau/2)^2$ $\tau = (1 + \sqrt{5})/2$ | |
| 0 .83808 74888 39953 13864 | $(\sqrt{137} - 5)/8$ Root of $4x^2 + 5x - 7 = 0$ | |
| 0 .83851 64807 13450 40313 | $(3 + \sqrt{29})/10$ Root of $5x^2 - 3x - 1 = 0$ | |
| 0 .84026 57631 32049 24669 | $(\sqrt{145} - 7)/6$ Root of $3x^2 + 7x - 8 = 0$ | |
| 0 .84168 76048 22300 07544 | $(5 - \sqrt{11})/2$ Root of $2x^2 - 10x + 7 = 0$ | |
| 0 .84232 92192 13245 41237 | $(\sqrt{153} - 9)/4$ Root of $2x^2 + 9x - 9 = 0$ | |
| 0 .84307 03308 17253 58248 | $(1 + \sqrt{33})/8$ Root of $4x^2 - x - 2 = 0$ | |
| 0 .84712 70883 83036 61483 | $(\sqrt{37} - 1)/6$ Root of $3x^2 + x - 3 = 0$ | |
| 1 .84865 25279 99468 25640 | S1(3) | |
| 0 .84899 95996 79679 64117 | $(\sqrt{39} - 2)/5$ Root of $5x^2 + 4x - 7 = 0$ | |
| 0 .85078 10593 58212 17162 | $(\sqrt{41} - 3)/4$ Root of $2x^2 + 3x - 4 = 0$ | |
| 3 .85235 54580 31727 83164 | Root of $I(x) = 5$ | |
| 0 .85247 95081 00666 88411 | $(\sqrt{43} - 4)/3$ Root of $3x^2 + 8x - 9 = 0$ | |
| 6 .85410 19662 49684 54461 | $(7 + \sqrt{45})/2$ Root of $x^2 - 7x + 1 = 0$ | |
| 0 .85994 50553 59740 86445 | $(9 - \sqrt{53})/2$ Root of $x^2 - 9x + 7 = 0$ | |
| 0 .86014 70508 73544 33450 | $(\sqrt{185} - 5)/10$ Root of $5x^2 + 5x - 8 = 0$ | |
| 0 .86155 54986 81225 56355 | $(\sqrt{193} - 7)/8$ Root of $4x^2 + 7x - 9 = 0$ | |
| 0 .86290 78131 26304 20049 | $(\sqrt{201} - 9)/6$ Root of $3x^2 + 9x - 10 = 0$ | |
| 0 .86332 49580 71079 96982 | $(1 + \sqrt{11})/5$ Root of $5x^2 - 2x - 2 = 0$ | |
| 0 .86851 70918 21329 76437 | $(\sqrt{13} - 1)/3$ Root of $3x^2 + 2x - 4 = 0$ | |
| 0 .86969 38456 69906 85892 | $(\sqrt{54} - 3)/5$ Root of $5x^2 + 6x - 9 = 0$ | |
| 0 .87797 33838 05950 00453 | $(\sqrt{249} - 7)/10$ Root of $5x^2 + 7x - 10 = 0$ | |
| 1 .87985 38621 75258 53349 | $\sum_{n=1}^{\infty} n!/n^n$ | |
| 0 .88102 49675 90665 43941 | $(1 + \sqrt{61})/10$ Root of $5x^2 - x - 3 = 0$ | |
| 0 .88278 22185 37318 70655 | $(\sqrt{65} - 1)/8$ Root of $4x^2 + x - 4 = 0$ | |
| 0 .88443 73104 86345 80876 | $(\sqrt{69} - 3)/6$ Root of $3x^2 + 3x - 5 = 0$ | |
| 0 .88600 09363 29382 79197 | $(\sqrt{73} - 5)/4$ Root of $2x^2 + 5x - 6 = 0$ | |
| 0 .88642 97105 60312 77996 | $1 - 1/2^3 + 1/3^4 - 1/4^5 + 1/5^6 - \dots$ | |
| 8 .88748 21936 96061 03020 | $(9 + \sqrt{77})/2$ Root of $x^2 - 9x + 1 = 0$ | |

(continued)

Table II (continued)

| | | Ref. |
|------------|-------------------|--|
| 1 .89442 | 71909 99915 87856 | $(5 + \sqrt{20})/5$ Root of $5x^2 - 10x + 1 = 0$ |
| 0 .89564 | 39237 38960 00165 | $(\sqrt{21} - 1)/4$ Root of $4x^2 + 2x - 5 = 0$ |
| 0 .89680 | 52532 74476 51819 | $(\sqrt{22} - 2)/3$ Root of $3x^2 + 4x - 6 = 0$ |
| 0 .89791 | 57616 56359 77080 | $(\sqrt{23} - 3)/2$ Root of $2x^2 + 6x - 7 = 0$ |
| 0 .90498 | 75621 12089 02702 | $(\sqrt{101} - 1)/10$ Root of $5x^2 + x - 5 = 0$ |
| 0 .90586 | 88457 44949 79790 | $(\sqrt{105} - 3)/8$ Root of $4x^2 + 3x - 6 = 0$ |
| 0 .90671 | 77514 85091 69663 | $(\sqrt{109} - 5)/6$ Root of $3x^2 + 5x - 7 = 0$ |
| 0 .90753 | 64531 83662 35200 | $(\sqrt{113} - 7)/4$ Root of $2x^2 + 7x - 8 = 0$ |
| 0 .90832 | 69131 95983 93968 | $(\sqrt{117} - 9)/2$ Root of $x^2 + 9x - 9 = 0$ |
| 0 .91354 | 54576 42600 89550 | $\cos 24^\circ = (1 + \sqrt{5} + \sqrt{30 - 6\sqrt{5}})/8$ |
| 0 .91355 | 28725 66004 38442 | $(\sqrt{31} - 1)/5$ Root of $5x^2 + 2x - 6 = 0$ |
| 0 .91421 | 35623 73095 04880 | $(\sqrt{8} - 1)/2$ Root of $4x^2 + 4x - 7 = 0$ |
| 0 .92065 | 55615 73370 29519 | $(\sqrt{149} - 3)/10$ Root of $5x^2 + 3x - 7 = 0$ |
| 0 .92116 | 46096 06622 70618 | $(\sqrt{153} - 5)/8$ Root of $4x^2 + 5x - 8 = 0$ |
| 0 .92166 | 06810 23611 29808 | $(\sqrt{157} - 7)/6$ Root of $3x^2 + 7x - 9 = 0$ |
| 0 .92214 | 43851 12380 09505 | $(\sqrt{161} - 9)/4$ Root of $2x^2 + 9x - 10 = 0$ |
| 0 .92664 | 99161 42159 93965 | $(\sqrt{44} - 2)/5$ Root of $5x^2 + 4x - 8 = 0$ |
| 0 .92705 | 09831 24842 27231 | $(\sqrt{45} - 3)/4$ Root of $4x^2 + 6x - 9 = 0$ |
| 0 .92744 | 33277 08422 71302 | $(\sqrt{46} - 4)/3$ Root of $3x^2 + 8x - 10 = 0$ |
| 0 .93178 | 21063 27635 31544 | $(\sqrt{205} - 5)/10$ Root of $5x^2 + 5x - 9 = 0$ |
| 0 .93210 | 40368 50120 03794 | $(\sqrt{209} - 7)/8$ Root of $4x^2 + 7x - 10 = 0$ |
| 0 .93622 | 91495 73721 63515 | $(\sqrt{59} - 3)/5$ Root of $5x^2 + 6x - 10 = 0$ |
| 518 .93913 | 91348 67704 82565 | Chi (9) 9 |
| 518 .93915 | 15822 21882 83192 | Shi (9) 9 |
| 1 .94675 | 74842 46086 78807 | $\psi(15/2)$ 1 |
| 4 .96039 | 20947 65609 76030 | Chi (3) 9 |
| 42 .99470 | 10299 93521 07246 | Chi (6) 9 |
| 42 .99506 | 11124 45683 73112 | Shi (6) 9 |

DEFINITIONS
Table III

a_n See Ref. 33

automorphic See Ref. 45

E_n Euler number. See Ref. 1, p. 804

$\binom{n}{m}$ binomial coefficient = $\frac{n!}{m!(n-m)!}$

perfect number. See Ref. 46

$p(n)$ unrestricted partitions of the number n ; i.e., the number of ways in which $1, 2, 3, \dots n$ may be added to give n . Thus,

$$4 = 1 + 1 + 1 + 1 = 1 + 1 + 2 = 1 + 3 = 2 + 2, \text{ so that } p(4) = 5.$$

See Ref. 1, p. 825.

$q(n)$ partitions of n in which the summands are not repeated. E.g.,

$$6 = 1 + 5 = 2 + 4 = 1 + 2 + 3, \text{ so that } q(6) = 4. \text{ See Ref. 1, p. 825.}$$

$r(n)$ unrestricted partitions of n , except that 1 is omitted.

$$r(n) = p(n) - p(n-1). \text{ E.g., } 6 = 4 + 2 = 3 + 3 = 2 + 2 + 2, \text{ so that}$$

$r(6) = 4$. The generating function is

$$\sum_{n=0}^{\infty} r(n)x^n = \prod_{n=2}^{\infty} (1 - x^n)^{-1}$$

$S_n^{(m)}$ Stirling number of the first kind. $(-1)^{n-m} S_n^{(m)}$ is the number of permutation of n symbols having exactly m cycles. E.g., the permutations acb , bac , and cba of abc each have two cycles, so that $S_3^{(2)} = -3$.

See Ref. 1, p. 824

$s_n^{(m)}$ Stirling number of the second kind. This is the number of ways of partitioning n elements into m non-empty subsets. E.g.,

| | | | |
|-------|---|---|----|
| abcd: | a | b | cd |
| | a | c | bd |
| | a | d | bc |
| | b | c | ad |
| | b | d | ac |
| | c | d | ab |

$$\therefore s_4^{(3)} = 6 \quad \text{See Ref. 1, p. 824.}$$

Table III

| | | a_0 | a_1 | E_0 | $-E_2$ | $p(1)$ | $q(0)$ | $q(1)$ | $q(2)$ | $r(2)$ | $r(3)$ |
|----|--------|-------|-------|-----------------|--------------------------------|--------------------------------|--------------------------------|---------------------------|---------------|-----------------|-----------------|
| 1 | 1 | | | | | | | | | | |
| | 1 | | | | | | | | | | |
| | | | | automorphic(45) | | Fibonacci(31) | | | | | |
| 2 | 10 | | | prime | a_2 | $p(2)$ | $q(3)$ | $q(4)$ | $r(4)$ | $r(5)$ | Fibonacci(31) |
| | 2 | | | | | | | | | | |
| 3 | 11 | | | prime | $2^2 - 1^2$ | $11 + 2!$ | $p(3)$ | $q(5)$ | $-s_3^{(2)}$ | $\beta_3^{(2)}$ | |
| | 10 | | | | | Fibonacci(31) | | | | | |
| 4 | 100 | | | 2^2 | $2 \cdot 2!$ | $q(6)$ | $r(6)$ | $r(7)$ | | | |
| | 11 | | | | | | | | | | |
| 5 | 101 | | | prime | $1^2 + 2^2$ | $3^2 - 2^2$ | $2 \cdot 2! + 1!$ | $2^{2^1} + 1$ | a_3 | E_4 | $p(4)$ |
| | 12 | | | | | automorphic(45) | Fibonacci(31) | | | | |
| 6 | 110 | | | $2 \cdot 3$ | $1 + 2 + 3$ | $1^2 + 1^2 + 2^2$ | $3!$ | $-s_4^{(1)}$ | $-s_4^{(3)}$ | $\beta_4^{(3)}$ | $q(8)$ |
| | 20 | | | | | automorphic(45) | perfect(46) | | | | |
| 7 | 111 | | | prime | $4^2 - 3^2$ | $2^3 - 1^3$ | $1 \cdot 3! + 1!$ | $p(5)$ | $r(8)$ | $\beta_4^{(2)}$ | |
| | 21 | | | | | | | | | | |
| 8 | 1 000 | | | 2^3 | $2^2 + 2^2$ | $3^2 - 1^2$ | $1 \cdot 3! + 1 \cdot 2!$ | $q(9)$ | $r(9)$ | Fibonacci(31) | |
| | 22 | | | | | | | | | | |
| 9 | 1 001 | | | 3^2 | $1^2 + 2^2 + 2^2$ | $1^3 + 2^3$ | $5^2 - 4^2$ | | | | |
| | 100 | | | | | | | | | | |
| 10 | 1 010 | | | $2 \cdot 5$ | $1 + 2 + 3 + 4$ | $1^2 + 3^2$ | $1^3 + 1^3 + 2^3$ | $(5)_2$ | | | $q(10)$ |
| | 101 | | | $-s_5^{(4)}$ | $\beta_5^{(4)}$ | | | | | | |
| 11 | 1 011 | | | prime | $1^2 + 1^2 + 3^2$ | $6^2 - 5^2$ | $1 \cdot 3! + 2 \cdot 2! + 1!$ | $p(6)$ | $s_4^{(2)}$ | | |
| | 102 | | | | | | | | | | |
| 12 | 1 100 | | | $2^2 \cdot 3$ | $2^2 + 2^2 + 2^2$ | $4^2 - 2^2$ | $2 \cdot 3!$ | $q(11)$ | $r(10)$ | | |
| | 110 | | | | | | | | | | |
| 13 | 1 101 | | | prime | $2^2 + 3^2$ | $7^2 - 6^2$ | $2 \cdot 3! + 1!$ | Fibonacci(31) | | | |
| | 111 | | | | | | | | | | |
| 14 | 1 110 | | | $2 \cdot 7$ | $1^2 + 2^2 + 3^2$ | $2 \cdot 3! + 1 \cdot 2!$ | | $r(11)$ | | | |
| | 112 | | | | | | | | | | |
| 15 | 1 111 | | | $3 \cdot 5$ | $1 + 2 + 3 + 4 + 5$ | $4^2 - 1^2$ | $8^2 - 7^2$ | $2^4 - 1^4$ | $(6)_2$ | | |
| | 120 | | | | $2 \cdot 3! + 1 \cdot 2! + 1!$ | a_4 | $p(7)$ | $q(12)$ | $-s_6^{(5)}$ | $\beta_5^{(2)}$ | $\beta_6^{(5)}$ |
| 16 | 10 000 | | | 2^4 | 4^2 | $2^3 + 2^3$ | $5^2 - 3^2$ | $2 \cdot 3! + 2 \cdot 2!$ | | | |
| | 121 | | | | | | | | | | |
| 17 | 10 001 | | | prime | $1^2 + 4^2$ | $1^4 + 2^4$ | $2^2 + 2^2 + 3^2$ | $1^3 + 2^3 + 2^3$ | $2^{2^2} + 1$ | | |
| | 122 | | | | $9^2 - 8^2$ | $2 \cdot 3! + 2 \cdot 2! + 1!$ | | | | | |

(continued)

Table III (continued)

| | | | | | | | |
|----|---------|---------------------|----------------------|---|--|---------------------------|--|
| 18 | 10 010 | $2 \cdot 3^2$ | $3^2 + 3^2$ | $1^2 + 1^2 + 4^2$ | $1^4 + 1^4 + 2^4$ | $3 \cdot 3!$ | $q(13)$ |
| | 200 | | | | | | |
| 19 | 10 011 | prime | $1^2 + 3^2 + 3^2$ | $10^2 - 9^2$ | $3^3 - 2^3$ | $3 \cdot 3! + 1!$ | |
| | 201 | | | | | | |
| 20 | 10 100 | $2^2 \cdot 5$ | $2^2 + 4^2$ | $6^2 - 4^2$ | $\binom{6}{3}$ | $3 \cdot 3! + 1 \cdot 2!$ | |
| | 202 | | | | | | |
| 21 | 10 101 | $3 \cdot 7$ | $\sum_1^6 n$ | $1^2 + 2^2 + 4^2$ | $5^2 - 2^2$ | $11^2 - 10^2$ | $\binom{7}{2}$ |
| | 210 | $r(12)$ | $-s_7^{(6)}$ | $s_7^{(6)}$ | Fibonacci(31) | | $3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 22 | 10 110 | $2 \cdot 11$ | $2^2 + 3^2 + 3^2$ | $3 \cdot 3! + 2 \cdot 2!$ | $p(8)$ | $q(14)$ | |
| | 211 | | | | | | |
| 23 | 10 111 | prime | $12^2 - 11^2$ | $7 \cdot 1^3 + 2 \cdot 2^3$ | $3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| | 212 | | | | | | |
| 24 | 11 000 | $2^3 \cdot 3$ | $2^2 + 2^2 + 4^2$ | $2^3 + 2^3 + 2^3$ | $5^2 - 1^2$ | $7^2 - 5^2$ | $4!$ |
| | 220 | | | | | | $r(13) \quad s_5^{(1)}$ |
| 25 | 11 001 | 5^2 | $3^2 + 4^2$ | $13^2 - 12^2$ | $1 \cdot 4! + 1!$ | $s_5^{(3)}$ | automorphic(45) |
| | 221 | | | | | | |
| 26 | 11 010 | $2 \cdot 13$ | $1^2 + 5^2$ | $1^2 + 3^2 + 4^2$ | $3^3 - 1^3$ | $1 \cdot 4! + 1 \cdot 2!$ | |
| | 222 | | | | | | |
| 27 | 11 011 | 3^3 | $3^2 + 3^2 + 3^2$ | $1^2 + 1^2 + 5^2$ | $6^2 - 3^2$ | $14^2 - 13^2$ | $1 \cdot 4! + 1 \cdot 2! + 1!$ |
| | 1000 | $q(15)$ | | | | | |
| 28 | 11 100 | $2^2 \cdot 7$ | $1 + 2 + 4 + 7 + 14$ | $\sum_1^7 n$ | $1^3 + 3^3$ | $8^2 - 6^2$ | $1 \cdot 4! + 2 \cdot 2!$ |
| | 1001 | $s_8^{(7)}$ | perfect(46) | $\binom{8}{2}$ | | | $-s_8^{(7)}$ |
| 29 | 11 101 | prime | $2^2 + 5^2$ | $2^2 + 3^2 + 4^2$ | $1^3 + 1^3 + 3^3$ | $15^2 - 14^2$ | $1 \cdot 4! + 2 \cdot 2! + 1!$ |
| | 1002 | | | | | | |
| 30 | 11 110 | $2 \cdot 3 \cdot 5$ | $1^2 + 2^2 + 5^2$ | $1^2 + 2^2 + 3^2 + 4^2$ | $1 \cdot 4! + 1 \cdot 3!$ | $p(9)$ | |
| | 1010 | | | | | | |
| 31 | 11 111 | prime | $16^2 - 15^2$ | $2^5 - 1^5$ | $1 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| | 1011 | | | | | | |
| 32 | 100 000 | 2^5 | $4^2 + 4^2$ | $2^4 + 2^4$ | $6^2 - 2^2$ | $9^2 - 7^2$ | $1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| | 1012 | | $1 + 2^2 + 3^3$ | | | | $q(16)$ |
| 33 | 100 001 | $3 \cdot 11$ | $1^2 + 4^2 + 4^2$ | $2^2 + 2^2 + 5^2$ | $1^4 + 2^4 + 2^4$ | $1^5 + 2^5$ | $7^2 - 4^2$ |
| | 1020 | | $17^2 - 16^2$ | $1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | |
| 34 | 100 010 | $2 \cdot 17$ | $3^2 + 5^2$ | $3^2 + 3^2 + 4^2$ | $1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $r(14)$ | Fibonacci(31) |
| | 1021 | | | | | | |

(continued)

Table III (continued)

| | | | | | | | |
|----|---------|---|---|---|---|--|---|
| 35 | 100 011 | $5 \cdot 7$ | $1^2 + 3^2 + 5^2$ | $2^3 + 3^3$ | $6^2 - 1^2$ | $18^2 - 17^2$ | $\binom{7}{3}$ |
| | 1022 | | $1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $S_5^{(3)}$ | | | |
| 36 | 100 100 | $2^2 \cdot 3^2$ | $\frac{8}{1} n$ | 6^2 | $2^2 + 4^2 + 4^2$ | $1^3 + 2^3 + 3^3$ | $10^2 - 8^2$ |
| | 1100 | $-S_9^{(8)}$ | $\frac{8}{9}^{(8)}$ | | | | $\binom{9}{2}$ |
| 37 | 100 101 | prime | $4^2 + 5^2$ | $1^2 + 6^2$ | $19^2 - 18^2$ | $4^3 - 3^3$ | $1 \cdot 4! + 2 \cdot 3! + 1!$ |
| | 1101 | | | | | | |
| 38 | 100 110 | $2 \cdot 19$ | $2^2 + 3^2 + 5^2$ | $1^2 + 1^2 + 6^2$ | $1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $q(17)$ | |
| | 1102 | | | | | | |
| 39 | 100 111 | $3 \cdot 13$ | $8^2 - 5^2$ | $20^2 - 19^2$ | $1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| | 1110 | | | | | | |
| 40 | 101 000 | $2^3 \cdot 5$ | $2^2 + 6^2$ | $7^2 - 3^2$ | $11^2 - 9^2$ | $1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | |
| | 1111 | | | | | | |
| 41 | 101 001 | prime | $4^2 + 5^2$ | $3^2 + 4^2 + 4^2$ | $1^2 + 2^2 + 6^2$ | $21^2 - 20^2$ | $1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| | 1112 | r(15) | | | | | |
| 42 | 101 010 | $2 \cdot 3 \cdot 7$ | $1^2 + 4^2 + 5^2$ | $1 \cdot 4! + 3 \cdot 3!$ | p(10) | | |
| | 1120 | | | | | | |
| 43 | 101 011 | prime | $3^2 + 3^2 + 5^2$ | $2^3 + 2^3 + 3^3$ | $22^2 - 21^2$ | $1 \cdot 4! + 3 \cdot 3! + 1!$ | |
| | 1121 | | | | | | |
| 44 | 101 100 | $2^2 \cdot 11$ | $2^2 + 2^2 + 6^2$ | $12^2 - 10^2$ | $1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| | 1122 | | | | | | |
| 45 | 101 101 | $3^2 \cdot 5$ | $\frac{9}{1} n$ | $2^2 + 4^2 + 5^2$ | $7^2 - 2^2$ | $9^2 - 6^2$ | $23^2 - 22^2$ |
| | 1200 | $1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $-S_{10}^{(9)}$ | $\frac{8}{10}^{(9)}$ | | $3^2 + 6^2$ | $\binom{10}{2}$ |
| 46 | 101 110 | $2 \cdot 23$ | $1^2 + 3^2 + 6^2$ | $1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $q(18)$ | | |
| | 1201 | | | | | | |
| 47 | 101 111 | prime | $24^2 - 23^2$ | $1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | | |
| | 1202 | | | | | | |
| 48 | 110 000 | $2^4 \cdot 3$ | $2 \cdot 4 \cdot 6$ | $4^2 + 4^2 + 4^2$ | $2^4 + 2^4 + 2^4$ | $7^2 - 1^2$ | $8^2 - 4^2$ |
| | 1210 | $2 \cdot 4!$ | | | | $13^2 - 11^2$ | |
| 49 | 110 001 | 7^2 | $2^2 + 3^2 + 6^2$ | $25^2 - 24^2$ | $2 \cdot 4! + 1!$ | | |
| | 1211 | | | | | | |
| 50 | 110 010 | $2 \cdot 5^2$ | $5^2 + 5^2$ | $1^2 + 7^2$ | $3^2 + 4^2 + 5^2$ | $2 \cdot 4! + 1 \cdot 2!$ | $-S_5^{(2)}$ |
| | 1212 | | | | | | |
| 51 | 110 011 | $3 \cdot 17$ | $1^2 + 5^2 + 5^2$ | $1^2 + 1^2 + 7^2$ | $10^2 - 7^2$ | $26^2 - 25^2$ | $2 \cdot 4! + 1 \cdot 2! + 1!$ |
| | 1220 | | | | | | |

(continued)

Table III (continued)

| | | |
|----|-------------------|--|
| 52 | 110 100 1221 | $2^2 \cdot 13$ $4^2 + 6^2$ $14^2 - 12^2$ $2 \cdot 4! + 2 \cdot 2!$ a_5 |
| 53 | 110 101 1222 | prime $2^2 + 7^2$ $1^2 + 4^2 + 6^2$ $27^2 - 26^2$ $2 \cdot 4! + 2 \cdot 2! + 1!$ |
| 54 | 110 110 2000 | $2 \cdot 3^3$ $2^2 + 5^2 + 5^2$ $1^2 + 2^2 + 7^2$ $3^2 + 3^2 + 6^2$ $3^3 + 3^3$ $2 \cdot 4! + 1 \cdot 3!$ $q(19)$ |
| 55 | 110 111 2001 | $5 \cdot 11$ $\sum_{n=1}^{10} n$ $1^2 + 2^2 + 3^2 + 5^2$ $1^3 + 3^3 + 3^3$ $8^2 - 3^2$ $28^2 - 27^2$ $(\frac{11}{2})$ $2 \cdot 4! + 1 \cdot 3! + 1!$ $r(16)$ $-s_{11}^{(10)}$ $s_{11}^{(10)}$ Fibonacci(31) |
| 56 | 111 000 2002 | $2^3 \cdot 7$ $2^2 + 4^2 + 6^2$ $9^2 - 5^2$ $15^2 - 13^2$ $4^3 - 2^3$ $(\frac{8}{3})$ $2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ $p(11)$ |
| 57 | 111 001 2010 | $3 \cdot 19$ $4^2 + 4^2 + 5^2$ $2^2 + 2^2 + 7^2$ $11^2 - 8^2$ $29^2 - 28^2$ $2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 58 | 111 010 2011 | $2 \cdot 29$ $3^2 + 7^2$ $2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 59 | 111 011 2012 | prime $3^2 + 5^2 + 5^2$ $1^2 + 3^2 + 7^2$ $30^2 - 29^2$ $2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 11$ |
| 60 | 111 100 2020 | $2^2 \cdot 3 \cdot 5$ $8^2 - 2^2$ $16^2 - 14^2$ $2 \cdot 4! + 2 \cdot 3!$ |
| 61 | 111 101 2021 | prime $5^2 + 6^2$ $3^2 + 4^2 + 6^2$ $31^2 - 30^2$ $5^3 - 4^3$ $2 \cdot 4! + 2 \cdot 3! + 11$ $-E_6$ |
| 62 | 111 110 2022 | $2 \cdot 31$ $1^2 + 5^2 + 6^2$ $2^2 + 3^2 + 7^2$ $2^3 + 3^3 + 3^3$ $2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 63 | 111 111 2100 | $3^2 \cdot 7$ $8^2 - 1^2$ $12^2 - 9^2$ $32^2 - 31^2$ $4^3 - 1^3$ $2^6 - 1^6$ $2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 11$ $s_7^{(2)}$ |
| 64 | 1 000 000 2101 | 2^6 8^2 4^3 $2^5 + 2^5$ $10^2 - 6^2$ $17^2 - 15^2$ $2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ $q(20)$ |
| 65 | 1 000 001 2102 | $5 \cdot 13$ $4^2 + 7^2$ $1^2 + 8^2$ $2^2 + 5^2 + 6^2$ $1^3 + 4^3$ $1^6 + 2^6$ $9^2 - 4^2$ $33^2 - 32^2$ $2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 11$ $s_6^{(4)}$ |
| 66 | 1 000 010 2110 | $2 \cdot 3 \cdot 11$ $\sum_{n=1}^{11} n$ $4^2 + 5^2 + 5^2$ $1^2 + 4^2 + 7^2$ $1^2 + 1^2 + 8^2$ $1^3 + 1^3 + 4^3$ $(\frac{12}{2})$ $2 \cdot 4! + 3 \cdot 3!$ $r(17)$ $-s_{12}^{(11)}$ $s_{12}^{(11)}$ |
| 67 | 1 000 011 2111 | prime $3^2 + 3^2 + 7^2$ $34^2 - 33^2$ $2 \cdot 4! + 3 \cdot 3! + 11$ |

(continued)

Table III (continued)

| | | | | | | |
|----|--------------------|-----------------------|-------------------|---|--|---|
| 68 | 1 000 100 2112 | $2^2 \cdot 17$ | $2^2 + 8^2$ | $4^2 + 4^2 + 6^2$ | $18^2 - 16^2$ | $2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 69 | 1 000 101 2120 | $3 \cdot 23$ | $2^2 + 4^2 + 7^2$ | $1^2 + 2^2 + 8^2$ | $13^2 - 10^2$ | $35^2 - 34^2$ $2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 70 | 1 000 110 2121 | $2 \cdot 5 \cdot 7$ | $3^2 + 5^2 + 6^2$ | $(\frac{8}{4})$ | $2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | |
| 71 | 1 000 111 2122 | prime | $36^2 - 35^2$ | $2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 72 | 1 001 000 2200 | $2^3 \cdot 3^2$ | $6^2 + 6^2$ | $2^2 + 2^2 + 8^2$ | $2^3 + 4^3$ | $9^2 - 3^2$ $11^2 - 7^2$ $19^2 - 17^2$ $3 \cdot 4!$ |
| 73 | 1 001 001 2201 | prime | $3^2 + 8^2$ | $1^2 + 6^2 + 6^2$ | $1^3 + 2^3 + 4^3$ | $37^2 - 36^2$ $3 \cdot 4! + 1!$ |
| 74 | 1 001 010 2202 | $2 \cdot 37$ | $5^2 + 7^2$ | $3^2 + 4^2 + 7^2$ | $1^2 + 3^2 + 8^2$ | $3^4 - 2^4$ $3 \cdot 4! + 1 \cdot 2!$ |
| 75 | 1 001 011 2210 | $3 \cdot 5^2$ | $5^2 + 5^2 + 5^2$ | $1^2 + 5^2 + 7^2$ | $10^2 - 5^2$ | $14^2 - 11^2$ $38^2 - 37^2$ $3 \cdot 4! + 1 \cdot 2! + 1!$ |
| 76 | 1 001 100 2211 | $2^2 \cdot 19$ | $2^2 + 6^2 + 6^2$ | $20^2 - 18^2$ | $3 \cdot 4! + 2 \cdot 2!$ | $q(21)$ automorphic(45) |
| 77 | 1 001 101 2212 | $7 \cdot 11$ | $4^2 + 5^2 + 6^2$ | $2^2 + 3^2 + 8^2$ | $9^2 - 2^2$ | $39^2 - 38^2$ $3 \cdot 4! + 2 \cdot 2! + 1!$ $p(12)$ |
| 78 | 1 001 110 2220 | $2 \cdot 3 \cdot 13$ | $\frac{1}{2}^2 n$ | $2^2 + 5^2 + 7^2$ | $(\frac{13}{2})$ | $3 \cdot 4! + 1 \cdot 3!$ $-s_{13}^{(12)}$ $s_{13}^{(12)}$ |
| 79 | 1 001 111 2221 | prime | $40^2 - 39^2$ | $3 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| 80 | 1 010 000 2222 | $2^4 \cdot 5$ | $4^2 + 8^2$ | $2^3 + 2^3 + 4^3$ | $9^2 - 1^2$ | $12^2 - 8^2$ $21^2 - 19^2$ $3^4 - 1^4$ $3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 81 | 1 010 001 10000 | 3^4 | 9^2 | $3^2 + 6^2 + 6^2$ | $4^2 + 4^2 + 7^2$ | $1^2 + 4^2 + 8^2$ $3^3 + 3^3 + 3^3$ $15^2 - 12^2$ $41^2 - 40^2$ $3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 82 | 1 010 010 10001 | $2 \cdot 41$ | $1^2 + 9^2$ | $3^2 + 3^2 + 8^2$ | $1^4 + 3^4$ | $3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 83 | 1 010 011 10002 | prime | $3^2 + 5^2 + 7^2$ | $1^2 + 1^2 + 9^2$ | $1^4 + 1^4 + 3^4$ | $42^2 - 41^2$ $3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 84 | 1 010 100 10010 | $2^2 \cdot 3 \cdot 7$ | $2^2 + 4^2 + 8^2$ | $10^2 - 4^2$ | $22^2 - 20^2$ | $(\frac{9}{3})$ $3 \cdot 4! + 2 \cdot 3!$ |

(continued)

Table III (continued)

| | | | | | |
|-----|--------------------|--|---|--|-------------------------------|
| 85 | 1 010 101 10011 | 5·17 $s_6^{(4)}$ | $6^2 + 7^2$ $2^2 + 9^2$ $11^2 - 6^2$ $43^2 - 42^2$ | $3 \cdot 4! + 2 \cdot 3! + 11$ | |
| 86 | 1 010 110 10012 | 2·43 | $5^2 + 5^2 + 6^2$ $1^2 + 6^2 + 7^2$ $1^2 + 2^2 + 9^2$ | $3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | |
| 87 | 1 010 111 10020 | 3·29 | $16^2 - 13^2$ $44^2 - 43^2$ | $3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 88 | 1 011 000 10021 | $2^3 \cdot 11$ $r(18)$ | $4^2 + 6^2 + 6^2$ $13^2 - 9^2$ $23^2 - 21^2$ | $3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | |
| 89 | 1 011 001 10022 | prime $45^2 - 44^2$ | $5^2 + 8^2$ $2^2 + 6^2 + 7^2$ $3^2 + 4^2 + 8^2$ $2^2 + 2^2 + 9^2$ | $3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ $q(22)$ Fibonacci(31) | |
| 90 | 1 011 010 10100 | $2 \cdot 3^2 \cdot 5$ | $3^2 + 9^2$ $4^2 + 5^2 + 7^2$ $1^2 + 5^2 + 8^2$ | $3 \cdot 4! + 3 \cdot 3!$ $s_6^{(3)}$ | |
| 91 | 1 011 011 10101 | $7 \cdot 13$ $6^3 - 5^3$ | $\frac{1}{2} n$ $(\frac{1}{2})^{14}$ | $1^2 + 3^2 + 9^2$ $3 \cdot 4! + 3 \cdot 3! + 1!$ $\frac{6}{2n^2}$ $-s_{14}^{(13)}$ $s_{14}^{(13)}$ | $10^2 - 3^2$ $46^2 - 45^2$ |
| 92 | 1 011 100 10102 | $2^2 \cdot 23$ | $1^3 + 3^3 + 4^3$ $24^2 - 22^2$ | $3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | |
| 93 | 1 011 101 10110 | 3·31 | $2^2 + 5^2 + 8^2$ $17^2 - 14^2$ | $47^2 - 46^2$ $3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 94 | 1 011 110 10111 | 2·47 | $3^2 + 6^2 + 7^2$ $2^2 + 3^2 + 9^2$ | $3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | |
| 95 | 1 011 111 10112 | 5·19 | $12^2 - 7^2$ $48^2 - 47^2$ | $3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 96 | 1 100 000 10120 | $2^5 \cdot 3$ $25^2 - 23^2$ | $4^2 + 4^2 + 8^2$ $2^5 + 2^5 + 2^5$ $10^2 - 2^2$ $11^2 - 5^2$ $14^2 - 10^2$ $4 \cdot 4!$ | | |
| 97 | 1 100 001 10121 | prime | $4^2 + 9^2$ $5^2 + 6^2 + 6^2$ | $2^4 + 3^4$ $49^2 - 48^2$ $4 \cdot 4! + 1!$ | |
| 98 | 1 100 010 10122 | $2 \cdot 7^2$ $4 \cdot 4! + 1 \cdot 2!$ | $7^2 + 7^2$ $3^2 + 5^2 + 8^2$ $1^2 + 4^2 + 9^2$ $1^4 + 2^4 + 3^4$ $5^3 - 3^3$ | | |
| 99 | 1 100 011 10200 | $3^2 \cdot 11$ $10^2 - 1^2$ | $5^2 + 5^2 + 7^2$ $18^2 - 15^2$ $50^2 - 49^2$ | $1^2 + 7^2 + 7^2$ $3^2 + 3^2 + 9^2$ $2^3 + 3^3 + 4^3$ $4 \cdot 4! + 1 \cdot 2! + 1!$ | |
| 100 | 1 100 100 10201 | $2^2 \cdot 5^2$ | 10^2 $6^2 + 8^2$ $1^3 + 2^3 + 3^3 + 4^3$ $26^2 - 24^2$ | $4 \cdot 4! + 2 \cdot 2!$ | |
| 101 | 1 100 101 10202 | prime | $1^2 + 10^2$ $51^2 - 50^2$ | $4^2 + 6^2 + 7^2$ $1^2 + 6^2 + 8^2$ $2^2 + 4^2 + 9^2$ $p(13)$ | |

(continued)

Table III (continued)

| | | | | | |
|-----|--|--|--|--|--|
| 102 | 1 100 110 10210 | $2 \cdot 3 \cdot 17$ | $2^2 + 7^2 + 7^2$ | $1^2 + 1^2 + 10^2$ | $4 \cdot 4! + 1 \cdot 3!$ |
| 103 | 1 100 111 10211 | prime | $52^2 - 51^2$ | $4 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 104 | 1 101 000 10212 | $2^3 \cdot 13$ $4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $2^2 + 10^2$ $q(23)$ | $2^2 + 6^2 + 8^2$ | $15^2 - 11^2$ $27^2 - 25^2$ |
| 105 | 1 101 001 10220 $-s_{15}^{(14)}$ | $3 \cdot 5 \cdot 7$ $19^2 - 16^2$ $s_{15}^{(14)}$ | $\sum_{n=1}^{14} n$ $53^2 - 52^2$ $(\frac{15}{2})$ | $1^2 + 2^2 + 10^2$ $4^2 + 5^2 + 8^2$ $4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | $11^2 - 4^2$ $13^2 - 8^2$ $r(19)$ |
| 106 | 1 101 010 10221 | $2 \cdot 53$ | $5^2 + 9^2$ | $3^2 + 4^2 + 9^2$ | $4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 107 | 1 101 011 10222 | prime | $3^2 + 7^2 + 7^2$ | $1^2 + 5^2 + 9^2$ | $54^2 - 53^2$ $4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 108 | 1 101 100 11000 | $2^2 \cdot 3^3$ $4 \cdot 4! + 2 \cdot 3!$ | $6^2 + 6^2 + 6^2$ | $2^2 + 2^2 + 10^2$ | $12^2 - 6^2$ $28^2 - 26^2$ |
| 109 | 1 101 101 11001 | prime | $3^2 + 10^2$ | $3^2 + 6^2 + 8^2$ | $55^2 - 54^2$ $4 \cdot 4! + 2 \cdot 3! + 1!$ |
| 110 | 1 101 110 11002 | $2 \cdot 5 \cdot 11$ | $5^2 + 6^2 + 7^2$ | $2^2 + 5^2 + 9^2$ | $1^2 + 3^2 + 10^2$ $4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 111 | 1 101 111 11010 | $3 \cdot 37$ | $20^2 - 17^2$ | $56^2 - 55^2$ | $4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 112 | 1 110 000 11011 | $2^4 \cdot 7$ | $11^2 - 3^2$ | $16^2 - 12^2$ | $29^2 - 27^2$ $4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 113 | 1 110 001 11012 | prime $57^2 - 56^2$ | $7^2 + 8^2$ $4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $4^2 + 4^2 + 9^2$ $2^2 + 3^2 + 10^2$ | $2^4 + 2^4 + 3^4$ |
| 114 | 1 110 010 11020 | $2 \cdot 3 \cdot 19$ | $4^2 + 7^2 + 7^2$ | $1^2 + 7^2 + 8^2$ | $5^2 + 5^2 + 8^2$ $4 \cdot 4! + 3 \cdot 3!$ |
| 115 | 1 110 011 11021 | $5 \cdot 23$ | $3^2 + 5^2 + 9^2$ | $14^2 - 9^2$ | $58^2 - 57^2$ $4 \cdot 4! + 3 \cdot 3! + 1!$ |
| 116 | 1 110 100 11022 | $2^2 \cdot 29$ | $4^2 + 10^2$ | $4^2 + 6^2 + 8^2$ | $30^2 - 28^2$ $4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 117 | 1 110 101 11100 | $3^2 \cdot 13$ $59^2 - 58^2$ | $6^2 + 9^2$ $5^3 - 2^3$ | $2^2 + 7^2 + 8^2$ $4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $1^2 + 4^2 + 10^2$ $11^2 - 2^2$ $21^2 - 18^2$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|--|
| 118 | 1 110 110 11101 | 2·59 $1^2 + 6^2 + 9^2$ $3^2 + 3^2 + 10^2$ $3^3 + 3^3 + 4^3$ $4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 119 | 1 110 111 11102 | 7·17 $12^2 - 5^2$ $60^2 - 59^2$ $4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 120 | 1 111 000 11110 | $2^3 \cdot 3 \cdot 5$ $\sum_1^{15} n$ $2^2 + 4^2 + 10^2$ $11^2 - 1^2$ $13^2 - 7^2$ $17^2 - 13^2$ $31^2 - 29^2$ $(\frac{16}{2})$ $(\frac{10}{3})$ $5!$ $-S_6^{(1)}$ $-S_{16}^{(15)}$ $S_{16}^{(15)}$ |
| 121 | 1 111 001 11111 | 11^2 $6^2 + 6^2 + 7^2$ $2^2 + 6^2 + 9^2$ $61^2 - 60^2$ $1 \cdot 5! + 1!$ |
| 122 | 1 111 010 11112 | 2·61 $1^2 + 11^2$ $3^2 + 7^2 + 8^2$ $4^2 + 5^2 + 9^2$ $1 \cdot 5! + 1 \cdot 2!$ q(24) |
| 123 | 1 111 011 11120 | $3 \cdot 41$ $5^2 + 7^2 + 7^2$ $1^2 + 1^2 + 11^2$ $22^2 - 19^2$ $62^2 - 61^2$ $1 \cdot 5! + 1 \cdot 2! + 1!$ |
| 124 | 1 111 100 11121 | $2^2 \cdot 31$ $5^3 - 1^3$ $32^2 - 30^2$ $1 \cdot 5! + 2 \cdot 2!$ |
| 125 | 1 111 101 11122 | 5^3 $5^2 + 10^2$ $2^2 + 11^2$ $5^2 + 6^2 + 8^2$ $3^2 + 4^2 + 10^2$ $15^2 - 10^2$ $63^2 - 62^2$ $1 \cdot 5! + 2 \cdot 2! + 1!$ |
| 126 | 1 111 110 11200 | $2 \cdot 3^2 \cdot 7$ $3^2 + 6^2 + 9^2$ $1^2 + 5^2 + 10^2$ $1^2 + 2^2 + 11^2$ $1^3 + 5^3$ $(\frac{9}{4})$ $1 \cdot 5! + 1 \cdot 3!$ |
| 127 | 1 111 111 11201 | prime $1^3 + 1^3 + 5^3$ $64^2 - 63^2$ $7^3 - 6^3$ $1 \cdot 5! + 1 \cdot 3! + 1!$ $S_8^{(2)}$ |
| 128 | 10 000 000 11202 | 2^7 $8^2 + 8^2$ $4^3 + 4^3$ $2^6 + 2^6$ $12^2 - 4^2$ $18^2 - 14^2$ $33^2 - 31^2$ $1 \cdot 5! + 1 \cdot 3! + 1 \cdot 2!$ |
| 129 | 10 000 001 11210 | $3 \cdot 43$ $1^7 + 2^7$ $4^2 + 7^2 + 8^2$ $1^2 + 8^2 + 8^2$ $2^2 + 5^2 + 10^2$ $2^2 + 2^2 + 11^2$ $1^3 + 4^3 + 4^3$ $23^2 - 20^2$ $65^2 - 64^2$ $1 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 130 | 10 000 010 11211 | $2 \cdot 5 \cdot 13$ $7^2 + 9^2$ $3^2 + 11^2$ $1^7 + 1^7 + 2^7$ $1 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ |
| 131 | 10 000 011 11212 | prime $5^2 + 5^2 + 9^2$ $1^2 + 7^2 + 9^2$ $1^2 + 3^2 + 11^2$ $66^2 - 65^2$ $1 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 132 | 10 000 100 11220 | $2^2 \cdot 3 \cdot 11$ $2^2 + 8^2 + 8^2$ $4^2 + 4^2 + 10^2$ $14^2 - 8^2$ $34^2 - 32^2$ $1 \cdot 5! + 2 \cdot 3!$ |
| 133 | 10 000 101 11221 | 7·19 $4^2 + 6^2 + 9^2$ $2^3 + 5^3$ $13^2 - 6^2$ $67^2 - 66^2$ $1 \cdot 5! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------------|---|---|--|---|--|
| 134 | 10 000 110 11222 | $2 \cdot 67$ $1^3 + 2^3 + 5^3$ | $6^2 + 7^2 + 7^2$ $1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ | $2^2 + 7^2 + 9^2$ $1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $3^2 + 5^2 + 10^2$ $p(14)$ | $2^2 + 3^2 + 11^2$ |
| 135 | 10 000 111 12000 | $3^3 \cdot 5$ $1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $12^2 - 3^2$ $1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $16^2 - 11^2$ $p(14)$ | $24^2 - 21^2$ $r(20)$ | $68^2 - 67^2$ |
| 136 | 10 001 000 12001 | $2^3 \cdot 17$ $35^2 - 33^2$ | $\sum_1^6 n$ $(\frac{17}{2})$ | $6^2 + 10^2$ $1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ | $6^2 + 6^2 + 8^2$ $-s_{17}^{(16)}$ | $2^3 + 4^3 + 4^3$ $\#_{17}^{(16)}$ |
| 137 | 10 001 001 12002 | prime $1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $4^2 + 11^2$ $1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $3^2 + 8^2 + 8^2$ $1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $1^2 + 6^2 + 10^2$ $r(20)$ | $69^2 - 68^2$ |
| 138 | 10 001 010 12010 | $2 \cdot 3 \cdot 23$ | $5^2 + 7^2 + 8^2$ | $1^2 + 4^2 + 11^2$ | $1 \cdot 5! + 3 \cdot 3!$ | |
| 139 | 10 001 011 12011 | prime | $3^2 + 7^2 + 9^2$ | $3^2 + 3^2 + 11^2$ | $70^2 - 69^2$ | $1 \cdot 5! + 3 \cdot 3! + 1!$ |
| 140 | 10 001 100 12012 | $2^2 \cdot 5 \cdot 7$ $1 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ | $\sum_1^7 n^2$ | $2^2 + 6^2 + 10^2$ | $12^2 - 2^2$ | $36^2 - 34^2$ $\#_7^{(5)}$ |
| 141 | 10 001 101 12020 | $3 \cdot 47$ $71^2 - 70^2$ | $4^2 + 5^2 + 10^2$ $1 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $2^2 + 4^2 + 11^2$ | $2^3 + 2^3 + 5^3$ | $25^2 - 22^2$ |
| 142 | 10 001 110 12021 | $2 \cdot 71$ | $5^2 + 6^2 + 9^2$ | $1 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ | $q(25)$ | |
| 143 | 10 001 111 12022 | $11 \cdot 13$ | $12^2 - 1^2$ | $72^2 - 71^2$ | $1 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 144 | 10 010 000 12100 | $2^4 \cdot 3^2$ $1 \cdot 5! + 1 \cdot 4!$ | 12^2 $Fibonacci(31)$ | $4^2 + 8^2 + 8^2$ | $13^2 - 5^2$ | $15^2 - 9^2$ $20^2 - 16^2$ $37^2 - 35^2$ |
| 145 | 10 010 001 12101 | $5 \cdot 29$ $1 \cdot 5! + 1 \cdot 4! + 1!$ | $8^2 + 9^2$ | $1^2 + 12^2$ | $3^2 + 6^2 + 10^2$ | $17^2 - 12^2$ $73^2 - 72^2$ |
| 146 | 10 010 010 12102 | $2 \cdot 73$ | $5^2 + 11^2$ $1^2 + 1^2 + 12^2$ | $4^2 + 7^2 + 9^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ | $1^2 + 8^2 + 9^2$ | $3^2 + 4^2 + 11^2$ |
| 147 | 10 010 011 12110 | $3 \cdot 7^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ | $7^2 + 7^2 + 7^2$ | $1^2 + 5^2 + 11^2$ | $14^2 - 7^2$ | $26^2 - 23^2$ $74^2 - 73^2$ |
| 148 | 10 010 100 12111 | $2^2 \cdot 37$ | $2^2 + 12^2$ | $38^2 - 36^2$ | $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ | |
| 149 | 10 010 101 12112 | prime | $7^2 + 10^2$ $75^2 - 74^2$ | $6^2 + 7^2 + 8^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ | $2^2 + 8^2 + 9^2$ | $1^2 + 2^2 + 12^2$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|---|
| 150 | 10 010 110 12120 | $2 \cdot 3 \cdot 5^2$ $5^2 + 5^2 + 10^2$ $1^2 + 7^2 + 10^2$ $2^2 + 5^2 + 11^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ |
| 151 | 10 010 111 12121 | prime $76^2 - 75^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ |
| 152 | 10 011 000 12122 | $2^3 \cdot 19$ $4^2 + 6^2 + 10^2$ $2^2 + 2^2 + 12^2$ $3^3 + 5^3$ $21^2 - 17^2$ $39^2 - 37^2$ $6^3 - 4^3$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 153 | 10 011 001 12200 | $3^2 \cdot 17$ $\sum_1^{17} n$ $3^2 + 12^2$ $5^2 + 8^2 + 8^2$ $6^2 + 6^2 + 9^2$ $2^2 + 7^2 + 10^2$ $4^2 + 4^2 + 11^2$ $1^3 + 3^3 + 5^3$ $13^2 - 4^2$ $27^2 - 24^2$ $77^2 - 76^2$ $(\frac{18}{2})$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ $-8_{18}^{(17)}$ $8_{18}^{(17)}$ |
| 154 | 10 011 010 12201 | $2 \cdot 7 \cdot 11$ $3^2 + 8^2 + 9^2$ $1^2 + 3^2 + 12^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 155 | 10 011 011 12202 | $5 \cdot 31$ $5^2 + 7^2 + 9^2$ $3^2 + 5^2 + 11^2$ $3^3 + 4^3 + 4^3$ $18^2 - 13^2$ $78^2 - 77^2$ $1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 156 | 10 011 100 12210 | $2^2 \cdot 3 \cdot 13$ $16^2 - 10^2$ $40^2 - 38^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ |
| 157 | 10 011 101 12211 | prime $6^2 + 11^2$ $2^2 + 3^2 + 12^2$ $79^2 - 78^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ |
| 158 | 10 011 110 12212 | $2 \cdot 79$ $3^2 + 7^2 + 10^2$ $1^2 + 6^2 + 11^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2!$ |
| 159 | 10 011 111 12220 | $3 \cdot 53$ $28^2 - 25^2$ $80^2 - 79^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 160 | 10 100 000 12221 | $2^5 \cdot 5$ $4^2 + 12^2$ $2^3 + 3^3 + 5^3$ $13^2 - 3^2$ $14^2 - 6^2$ $22^2 - 18^2$ $41^2 - 39^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 161 | 10 100 001 12222 | $7 \cdot 23$ $4^2 + 8^2 + 9^2$ $5^2 + 6^2 + 10^2$ $2^2 + 6^2 + 11^2$ $1^2 + 4^2 + 12^2$ $15^2 - 8^2$ $81^2 - 80^2$ $1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 162 | 10 100 010 20000 | $2 \cdot 3^4$ $9^2 + 9^2$ $3^4 + 3^4$ $7^2 + 7^2 + 8^2$ $4^2 + 5^2 + 11^2$ $3^2 + 3^2 + 12^2$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ |
| 163 | 10 100 011 20001 | prime $1^2 + 9^2 + 9^2$ $1^4 + 3^4 + 3^4$ $82^2 - 81^2$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ |
| 164 | 10 100 100 20002 | $2^2 \cdot 41$ $8^2 + 10^2$ $6^2 + 8^2 + 8^2$ $2^2 + 4^2 + 12^2$ $42^2 - 40^2$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 165 | 10 100 101 20010 | $3 \cdot 5 \cdot 11$ $4^2 + 7^2 + 10^2$ $1^2 + 8^2 + 10^2$ $13^2 - 2^2$ $19^2 - 14^2$ $29^2 - 26^2$ $83^2 - 82^2$ $(\frac{11}{3})$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ $q(26)$ $r(21)$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|--|
| 166 | 10 100 110 20011 | $2 \cdot 83$ $6^2 + 7^2 + 9^2$ $2^2 + 9^2 + 9^2$ $3^2 + 6^2 + 11^2$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 167 | 10 100 111 20012 | prime $84^2 - 83^2$ $1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 168 | 10 101 000 20020 | $2^3 \cdot 3 \cdot 7$ $2^2 + 8^2 + 10^2$ $13^2 - 1^2$ $17^2 - 11^2$ $23^2 - 19^2$ $43^2 - 41^2$ $1 \cdot 5! + 2 \cdot 4!$ |
| 169 | 10 101 001 20021 | 13^2 $5^2 + 12^2$ $3^2 + 4^2 + 12^2$ $85^2 - 84^2$ $8^3 - 7^3$ $1 \cdot 5! + 2 \cdot 4! + 1!$ |
| 170 | 10 101 010 20022 | $2 \cdot 5 \cdot 17$ $7^2 + 11^2$ $1^2 + 13^2$ $5^2 + 8^2 + 9^2$ $1^2 + 5^2 + 12^2$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 2!$ |
| 171 | 10 101 011 20100 | $3^2 \cdot 19$ $\sum_{n=1}^{18} n$ $3^2 + 9^2 + 9^2$ $5^2 + 5^2 + 11^2$ $1^2 + 7^2 + 11^2$ $1^2 + 1^2 + 13^2$ $14^2 - 5^2$ $30^2 - 27^2$ $86^2 - 85^2$ $(\frac{19}{2})$ $-8_{19}^{(18)}$ $\frac{1}{19} \cdot 1 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ |
| 172 | 10 101 100 20101 | $2^2 \cdot 43$ $6^2 + 6^2 + 10^2$ $44^2 - 42^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 2!$ |
| 173 | 10 101 101 20102 | prime $2^2 + 13^2$ $3^2 + 8^2 + 10^2$ $4^2 + 6^2 + 11^2$ $2^2 + 5^2 + 12^2$ $87^2 - 86^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 2! + 1!$ |
| 174 | 10 101 110 20110 | $2 \cdot 3 \cdot 29$ $5^2 + 7^2 + 10^2$ $2^2 + 7^2 + 11^2$ $1^2 + 2^2 + 13^2$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3!$ |
| 175 | 10 101 111 20111 | $5^2 \cdot 7$ $16^2 - 9^2$ $20^2 - 15^2$ $88^2 - 87^2$ $4^4 - 3^4$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1!$ $s_7^{(5)}$ |
| 176 | 10 110 000 20112 | $2^4 \cdot 11$ $4^2 + 4^2 + 12^2$ $15^2 - 7^2$ $24^2 - 20^2$ $45^2 - 43^2$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ $p(15)$ |
| 177 | 10 110 001 20120 | $3 \cdot 59$ $7^2 + 8^2 + 8^2$ $2^2 + 2^2 + 13^2$ $31^2 - 28^2$ $89^2 - 88^2$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 178 | 10 110 010 20121 | $2 \cdot 89$ $3^2 + 13^2$ $4^2 + 9^2 + 9^2$ $3^2 + 5^2 + 12^2$ $2^4 + 3^4 + 3^4$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 179 | 10 110 011 20122 | prime $7^2 + 7^2 + 9^2$ $3^2 + 7^2 + 11^2$ $1^2 + 3^2 + 13^2$ $3^3 + 3^3 + 5^3$ $90^2 - 89^2$ $1 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 180 | 10 110 100 20200 | $2^2 \cdot 3^2 \cdot 5$ $6^2 + 12^2$ $4^2 + 8^2 + 10^2$ $14^2 - 4^2$ $18^2 - 12^2$ $46^2 - 44^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3!$ |
| 181 | 10 110 101 20201 | prime $9^2 + 10^2$ $6^2 + 8^2 + 9^2$ $1^2 + 6^2 + 12^2$ $91^2 - 90^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|--|
| 182 | 10 110 110 20202 | $2 \cdot 7 \cdot 13$ $1^2 + 9^2 + 10^2$ $5^2 + 6^2 + 11^2$ $2^2 + 3^2 + 13^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 183 | 10 110 111 20210 | $3 \cdot 61$ $32^2 - 29^2$ $92^2 - 91^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 184 | 10 111 000 20211 | $2^3 \cdot 23$ $2^2 + 6^2 + 12^2$ $25^2 - 21^2$ $47^2 - 45^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 185 | 10 111 001 20212 | $5 \cdot 37$ $8^2 + 11^2$ $4^2 + 13^2$ $6^2 + 7^2 + 10^2$ $2^2 + 9^2 + 10^2$ $4^2 + 5^2 + 12^2$ $21^2 - 16^2$ $93^2 - 92^2$ $1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 186 | 10 111 010 20220 | $2 \cdot 3 \cdot 31$ $4^2 + 7^2 + 11^2$ $1^2 + 8^2 + 11^2$ $1^2 + 4^2 + 13^2$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ |
| 187 | 10 111 011 20221 | $11 \cdot 17$ $5^2 + 9^2 + 9^2$ $3^2 + 3^2 + 13^2$ $14^2 - 3^2$ $94^2 - 93^2$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ |
| 188 | 10 111 100 20222 | $2^2 \cdot 47$ $48^2 - 46^2$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 189 | 10 111 101 21000 | $3^3 \cdot 7$ $5^2 + 8^2 + 10^2$ $2^2 + 8^2 + 11^2$ $3^2 + 6^2 + 12^2$ $2^2 + 4^2 + 13^2$ $4^3 + 5^3$ $15^2 - 6^2$ $17^2 - 10^2$ $33^2 - 30^2$ $95^2 - 94^2$ $6^3 - 3^3$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 190 | 10 111 110 21001 | $2 \cdot 5 \cdot 19$ $\sum_1^{19} n$ $3^2 + 9^2 + 10^2$ $1^3 + 4^3 + 5^3$ $(\frac{20}{2})$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ $-s_{20}^{(19)}$ $s_{20}^{(19)}$ |
| 191 | 10 111 111 21002 | prime $96^2 - 95^2$ $1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 192 | 11 000 000 21010 | $2^6 \cdot 3$ $8^2 + 8^2 + 8^2$ $4^3 + 4^3 + 4^3$ $2^6 + 2^6 + 2^6$ $14^2 - 2^2$ $16^2 - 8^2$ $19^2 - 13^2$ $26^2 - 22^2$ $49^2 - 47^2$ $1 \cdot 5! + 3 \cdot 4!$ $q(27)$ |
| 193 | 11 000 001 21011 | prime $7^2 + 12^2$ $6^2 + 6^2 + 11^2$ $97^2 - 96^2$ $1 \cdot 5! + 3 \cdot 4! + 1!$ |
| 194 | 11 000 010 21012 | $2 \cdot 97$ $5^2 + 13^2$ $7^2 + 8^2 + 9^2$ $3^2 + 8^2 + 11^2$ $5^2 + 5^2 + 12^2$ $1^2 + 7^2 + 12^2$ $3^2 + 4^2 + 13^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ |
| 195 | 11 000 011 21020 | $3 \cdot 5 \cdot 13$ $5^2 + 7^2 + 11^2$ $1^2 + 5^2 + 13^2$ $14^2 - 1^2$ $22^2 - 17^2$ $34^2 - 31^2$ $98^2 - 97^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ |
| 196 | 11 000 100 21021 | $2^2 \cdot 7^2$ 14^2 $4^2 + 6^2 + 12^2$ $50^2 - 48^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ |
| 197 | 11 000 101 21022 | prime $1^2 + 14^2$ $4^2 + 9^2 + 10^2$ $2^2 + 7^2 + 12^2$ $2^3 + 4^3 + 5^3$ $99^2 - 98^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|--|
| 198 | 11 000 110 21100 | $2 \cdot 3^2 \cdot 11$ $6^2 + 9^2 + 9^2$ $7^2 + 7^2 + 10^2$ $2^2 + 5^2 + 13^2$ $1^2 + 1^2 + 14^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3!$ |
| 199 | 11 000 111 21101 | prime $100^2 - 99^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ |
| 200 | 11 001 000 21102 | $2^3 \cdot 5^2$ $10^2 + 10^2$ $2^2 + 14^2$ $6^2 + 8^2 + 10^2$ $15^2 - 5^2$ $27^2 - 23^2$ $51^2 - 49^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 201 | 11 001 001 21110 | $3 \cdot 67$ $1^2 + 10^2 + 10^2$ $4^2 + 8^2 + 11^2$ $4^2 + 4^2 + 13^2$ $1^2 + 2^2 + 14^2$ $35^2 - 32^2$ $101^2 - 100^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 202 | 11 001 010 21111 | $2 \cdot 101$ $9^2 + 11^2$ $3^2 + 7^2 + 12^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 203 | 11 001 011 21112 | $7 \cdot 29$ $1^2 + 9^2 + 11^2$ $3^2 + 5^2 + 13^2$ $18^2 - 11^2$ $102^2 - 101^2$ $1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ a_6 |
| 204 | 11 001 100 21120 | $2^2 \cdot 3 \cdot 17$ $2^2 + 10^2 + 10^2$ $2^2 + 2^2 + 14^2$ $\frac{8}{1} n^2$ $20^2 - 14^2$ $52^2 - 50^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ |
| 205 | 11 001 101 21121 | $5 \cdot 41$ $6^2 + 13^2$ $3^2 + 14^2$ $5^2 + 6^2 + 12^2$ $23^2 - 18^2$ $103^2 - 102^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ |
| 206 | 11 001 110 21122 | $2 \cdot 103$ $5^2 + 9^2 + 10^2$ $6^2 + 7^2 + 11^2$ $2^2 + 9^2 + 11^2$ $1^2 + 6^2 + 13^2$ $1^2 + 3^2 + 14^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 207 | 11 001 111 21200 | $3^2 \cdot 23$ $16^2 - 7^2$ $36^2 - 33^2$ $104^2 - 103^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 208 | 11 010 000 21201 | $2^4 \cdot 13$ $8^2 + 12^2$ $17^2 - 9^2$ $28^2 - 24^2$ $53^2 - 51^2$ $6^3 - 2^3$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 209 | 11 010 001 21202 | $11 \cdot 19$ $8^2 + 8^2 + 9^2$ $3^2 + 10^2 + 10^2$ $4^2 + 7^2 + 12^2$ $1^2 + 8^2 + 12^2$ $2^2 + 6^2 + 13^2$ $2^2 + 3^2 + 14^2$ $15^2 - 4^2$ $105^2 - 104^2$ $1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 210 | 11 010 010 21210 | $2 \cdot 3 \cdot 5 \cdot 7$ $\frac{20}{1} n$ $5^2 + 8^2 + 11^2$ $4^2 + 5^2 + 13^2$ $(\frac{21}{2})$ $(\frac{10}{4})$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3!$ $r(22) - s_{21}^{(20)}$ $s_{21}^{(20)}$ |
| 211 | 11 010 011 21211 | prime $7^2 + 9^2 + 9^2$ $3^2 + 9^2 + 11^2$ $106^2 - 105^2$ $3^5 - 2^5$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1!$ |
| 212 | 11 010 100 21212 | $2^2 \cdot 53$ $4^2 + 14^2$ $2^2 + 8^2 + 12^2$ $54^2 - 52^2$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 213 | 11 010 101 21220 | $3 \cdot 71$ $7^2 + 8^2 + 10^2$ $1^2 + 4^2 + 14^2$ $37^2 - 34^2$ $107^2 - 106^2$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|---------------------|--|
| 214 | 11 010 110 21221 | 2·107 $3^2 + 6^2 + 13^2$ $3^2 + 3^2 + 14^2$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 215 | 11 010 111 21222 | 5·43 $24^2 - 19^2$ $108^2 - 107^2$ $6^3 - 1^3$ $1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 216 | 11 011 000 22000 | $2^3 \cdot 3^3$ 6^3 $4^2 + 10^2 + 10^2$ $6^2 + 6^2 + 12^2$ $2^2 + 4^2 + 14^2$ $3^3 + 4^3 + 5^3$ $15^2 - 3^2$ $21^2 - 15^2$ $29^2 - 25^2$ $55^2 - 53^2$ $1 \cdot 5! + 4 \cdot 4!$ |
| 217 | 11 011 001 22001 | 7·31 $6^2 + 9^2 + 10^2$ $3^2 + 8^2 + 12^2$ $1^3 + 6^3$ $19^2 - 12^2$ $109^2 - 108^2$ $9^3 - 8^3$ $1 \cdot 5! + 4 \cdot 4! + 1!$ |
| 218 | 11 011 010 22002 | 2·109 $7^2 + 13^2$ $4^2 + 9^2 + 11^2$ $5^2 + 7^2 + 12^2$ $1^3 + 1^3 + 6^3$ $7^3 - 5^3$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ |
| 219 | 11 011 011 22010 | 3·73 $7^2 + 7^2 + 11^2$ $5^2 + 5^2 + 13^2$ $1^2 + 7^2 + 13^2$ $38^2 - 35^2$ $110^2 - 109^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 2! + 1!$ |
| 220 | 11 011 100 22011 | $2^2 \cdot 5 \cdot 11$ $16^2 - 6^2$ $56^2 - 54^2$ $\binom{12}{3}$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 2!$ |
| 221 | 11 011 101 22012 | $13 \cdot 17$ $10^2 + 11^2$ $5^2 + 14^2$ $6^2 + 8^2 + 11^2$ $4^2 + 6^2 + 13^2$ $3^2 + 4^2 + 14^2$ $15^2 - 2^2$ $111^2 - 110^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 2! + 1!$ |
| 222 | 11 011 110 22020 | $2 \cdot 3 \cdot 37$ $1^2 + 10^2 + 11^2$ $2^2 + 7^2 + 13^2$ $1^2 + 5^2 + 14^2$ q(28) $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ |
| 223 | 11 011 111 22021 | prime $112^2 - 111^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ |
| 224 | 11 100 000 22022 | $2^5 \cdot 7$ $2^3 + 6^3$ $4^2 + 8^2 + 12^2$ $15^2 - 1^2$ $18^2 - 10^2$ $30^2 - 26^2$ $57^2 - 55^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 225 | 11 100 001 22100 | $3^2 \cdot 5^2$ 15^2 $9^2 + 12^2$ $5^2 + 10^2 + 10^2$ $2^2 + 10^2 + 11^2$ $2^2 + 5^2 + 14^2$ $\frac{5}{2}n^3$ $1^3 + 2^3 + 6^3$ $17^2 - 8^2$ $25^2 - 20^2$ $39^2 - 36^2$ $113^2 - 112^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ $-s_6^{(3)}$ |
| 226 | 11 100 010 22101 | $2 \cdot 113$ $1^2 + 15^2$ $8^2 + 9^2 + 9^2$ $1^2 + 9^2 + 12^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 227 | 11 100 011 22102 | prime $5^2 + 9^2 + 11^2$ $3^2 + 7^2 + 13^2$ $1^2 + 1^2 + 15^2$ $114^2 - 113^2$ $1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 228 | 11 100 100 22110 | $2^2 \cdot 3 \cdot 19$ $8^2 + 8^2 + 10^2$ $4^2 + 4^2 + 14^2$ $22^2 - 16^2$ $58^2 - 56^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ |
| 229 | 11 100 101 22111 | prime $2^2 + 15^2$ $6^2 + 7^2 + 12^2$ $2^2 + 9^2 + 12^2$ $115^2 - 114^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|----------------------|--|--|---|--|--|
| 230 | 11 100 110 22112 | $2 \cdot 5 \cdot 23$ $1^2 + 2^2 + 15^2$ | $7^2 + 9^2 + 10^2$ $1 \cdot 5! + 4 \cdot 4!$ | $3^2 + 10^2 + 11^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $5^2 + 6^2 + 13^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $3^2 + 5^2 + 14^2$ |
| 231 | 11 100 111 22120 | $3 \cdot 7 \cdot 11$ $p(16)$ | \sum_1^n $\sim s_{22}^{(21)}$ | $16^2 - 5^2$ $\psi_{22}^{(21)}$ | $20^2 - 13^2$ $1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $40^2 - 37^2$ $116^2 - 115^2$ |
| 232 | 11 101 000 22121 | $2^3 \cdot 29$ $1 \cdot 5! + 4 \cdot 4!$ | $6^2 + 14^2$ $+ 2 \cdot 3! + 2 \cdot 2!$ | $2^3 + 2^3 + 6^3$ $+ 2 \cdot 3! + 2 \cdot 2! + 1 \cdot 1!$ | $31^2 - 27^2$ $+ 2 \cdot 3! + 2 \cdot 2! + 1 \cdot 1!$ | $59^2 - 57^2$ |
| 233 | 11 101 001 22122 | prime $117^2 - 116^2$ | | $8^2 + 13^2$ $1 \cdot 5! + 4 \cdot 4!$ | $5^2 + 8^2 + 12^2$ $+ 2 \cdot 3! + 2 \cdot 2! + 1 \cdot 1!$ | $1^2 + 6^2 + 14^2$ $Fibonacci(31)$ |
| 234 | 11 101 010 22200 | $2 \cdot 3^2 \cdot 13$ $1^2 + 8^2 + 13^2$ | $3^2 + 15^2$ $1 \cdot 5! + 4 \cdot 4!$ | $7^2 + 8^2 + 11^2$ $1 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | $3^2 + 9^2 + 12^2$ $+ 3 \cdot 3!$ | $4^2 + 7^2 + 13^2$ |
| 235 | 11 101 011 22201 | $5 \cdot 47$ | | $1^2 + 3^2 + 15^2$ | $26^2 - 21^2$ | $118^2 - 117^2$ |
| 236 | 11 101 100 22202 | $2^2 \cdot 59$ $1 \cdot 5! + 4 \cdot 4!$ | $6^2 + 10^2 + 10^2$ $+ 3 \cdot 3! + 1 \cdot 2!$ | $2^2 + 6^2 + 14^2$ | $60^2 - 58^2$ | |
| 237 | 11 101 101 22210 | $3 \cdot 79$ $119^2 - 118^2$ | | $4^2 + 10^2 + 11^2$ $1 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $2^2 + 8^2 + 13^2$ $+ 1 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $4^2 + 5^2 + 14^2$ $41^2 - 38^2$ |
| 238 | 11 101 110 22211 | $2 \cdot 7 \cdot 17$ | | $6^2 + 9^2 + 11^2$ | $2^2 + 3^2 + 15^2$ | $1 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 239 | 11 101 111 22212 | prime | | $1^3 + 4 \cdot 2^3 + 3 \cdot 3^3 + 5^3$ | $120^2 - 119^2$ | $1 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 240 | 11 110 000 22220 | $2^4 \cdot 3 \cdot 5$ $61^2 - 59^2$ | $16^2 - 4^2$ $4^4 - 2^4$ | $17^2 - 7^2$ $2 \cdot 5! + 11$ | $19^2 - 11^2$ $23^2 - 17^2$ | $32^2 - 28^2$ |
| 241 | 11 110 001 22221 | prime | | $4^2 + 15^2$ $121^2 - 120^2$ | $4^2 + 9^2 + 12^2$ $2 \cdot 5! + 11$ | $6^2 + 6^2 + 13^2$ $3^2 + 6^2 + 14^2$ |
| 242 | 11 110 010 22222 | $2 \cdot 11^2$ $3^5 - 1^5$ | $11^2 + 11^2$ $2 \cdot 5! + 1 \cdot 2!$ | $7^2 + 7^2 + 12^2$ | $3^2 + 8^2 + 13^2$ | $1^2 + 4^2 + 15^2$ |
| 243 | 11 110 011 100000 | 3^5 $3^3 + 6^3$ | $9^2 + 9^2 + 9^2$ $3^4 + 3^4 + 3^4$ | $1^2 + 11^2 + 11^2$ $18^2 - 9^2$ | $5^2 + 7^2 + 13^2$ $42^2 - 39^2$ | $3^2 + 3^2 + 15^2$ $122^2 - 121^2$ |
| 244 | 11 110 100 100001 | $2^2 \cdot 61$ $2 \cdot 5! + 2 \cdot 2!$ | | $10^2 + 12^2$ | $6^2 + 8^2 + 12^2$ | $1^3 + 3^3 + 6^3$ $1^5 + 3^5$ |
| 245 | 11 110 101 100002 | $5 \cdot 7^2$ $21^2 - 14^2$ | $7^2 + 14^2$ $27^2 - 22^2$ | $8^2 + 9^2 + 10^2$ $123^2 - 122^2$ | $1^2 + 10^2 + 12^2$ $2 \cdot 5! + 2 \cdot 2! + 1 \cdot 1!$ | $2^2 + 4^2 + 15^2$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------|-------------------------|---|---|---|---|
| 246 | 11 110 110 | $2 \cdot 3 \cdot 41$ | $5^2 + 10^2 + 11^2$ | $2^2 + 11^2 + 11^2$ | $5^2 + 5^2 + 14^2$ | $1^2 + 7^2 + 14^2$ |
| | 100010 | | $2 \cdot 5! + 1 \cdot 3!$ | | | |
| 247 | 11 110 111 | $13 \cdot 19$ | $16^2 - 3^2$ | $124^2 - 123^2$ | $2 \cdot 5! + 1 \cdot 3! + 1!$ | |
| | 100011 | | | | | |
| 248 | 11 111 000 | $2^3 \cdot 31$ | $2^2 + 10^2 + 12^2$ | $4^2 + 6^2 + 14^2$ | $33^2 - 29^2$ | $63^2 - 61^2$ |
| | 100012 | | $2 \cdot 5! + 1 \cdot 3! + 1 \cdot 2!$ | | | |
| 249 | 11 111 001 | $3 \cdot 83$ | $7^2 + 10^2 + 10^2$ | $8^2 + 8^2 + 11^2$ | $4^2 + 8^2 + 13^2$ | $2^2 + 7^2 + 14^2$ |
| | 100020 | | $43^2 - 40^2$ | $125^2 - 124^2$ | $2 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 250 | 11 111 010 | $2 \cdot 5^3$ | $9^2 + 13^2$ | $5^2 + 15^2$ | $5^2 + 9^2 + 12^2$ | $3^2 + 4^2 + 15^2$ |
| | 100021 | | $2 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ | | | $5^3 + 5^3$ |
| 251 | 11 111 011 | prime | $7^2 + 9^2 + 11^2$ | $3^2 + 11^2 + 11^2$ | $1^2 + 9^2 + 13^2$ | $1^2 + 5^2 + 15^2$ |
| | 100022 | | $1^3 + 5^3 + 5^3$ | $2^3 + 3^3 + 6^3$ | $126^2 - 125^2$ | $2 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 252 | 11 111 100 | $2^2 \cdot 3^2 \cdot 7$ | $16^2 - 2^2$ | $24^2 - 18^2$ | $64^2 - 62^2$ | $(\frac{10}{5})$ |
| | 100100 | | | | | $2 \cdot 5! + 2 \cdot 3!$ |
| 253 | 11 111 101 | $11 \cdot 23$ | $\sum_{n=1}^{22} n$ | $3^2 + 10^2 + 12^2$ | $4^3 + 4^3 + 5^3$ | $17^2 - 6^2$ |
| | 100101 | $(\frac{23}{2})$ | $2 \cdot 5! + 2 \cdot 3! + 1!$ | $r(23)$ | $-s_{23}^{(22)}$ | $127^2 - 126^2$ |
| 254 | 11 111 110 | $2 \cdot 127$ | $6^2 + 7^2 + 13^2$ | $2^2 + 9^2 + 13^2$ | $3^2 + 7^2 + 14^2$ | $2^2 + 5^2 + 15^2$ |
| | 100102 | | $2 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ | | | |
| 255 | 11 111 111 | $3 \cdot 5 \cdot 17$ | $16^2 - 1^2$ | $28^2 - 23^2$ | $44^2 - 41^2$ | $128^2 - 127^2$ |
| | 100110 | $2^8 - 1^8$ | $2^{23} - 1$ | $2 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $g_9^{(2)}$ | $4^4 - 1^4$ |
| 256 | 100 000 000 | 2^8 | 4^4 | 16^2 | $20^2 - 12^2$ | $34^2 - 30^2$ |
| | 100111 | | | $2 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ | $q(29)$ | $65^2 - 63^2$ |
| 257 | 100 000 001 | prime | $1^2 + 16^2$ | $6^2 + 10^2 + 11^2$ | $7^2 + 8^2 + 12^2$ | $5^2 + 6^2 + 14^2$ |
| | 100112 | | $4^2 + 4^2 + 15^2$ | $1^4 + 4^4$ | $1^7 + 2^7 + 2^7$ | $1^8 + 2^8$ |
| | | | | | $2^{23} + 1$ | $129^2 - 128^2$ |
| | | | $2 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | | | |
| 258 | 100 000 010 | $2 \cdot 3 \cdot 43$ | $4^2 + 11^2 + 11^2$ | $5^2 + 8^2 + 13^2$ | $1^2 + 1^2 + 16^2$ | $2^3 + 5^3 + 5^3$ |
| | 100120 | | $1^4 + 1^4 + 4^4$ | $2 \cdot 5! + 3 \cdot 3!$ | | |
| 259 | 100 000 011 | $7 \cdot 37$ | $3^2 + 9^2 + 13^2$ | $3^2 + 5^2 + 15^2$ | $22^2 - 15^2$ | $130^2 - 129^2$ |
| | 100121 | | $2 \cdot 5! + 3 \cdot 3! + 1!$ | | | |
| 260 | 100 000 100 | $2^2 \cdot 5 \cdot 13$ | $8^2 + 14^2$ | $2^2 + 16^2$ | $4^2 + 10^2 + 12^2$ | $18^2 - 8^2$ |
| | 100122 | | $2 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ | | | $66^2 - 64^2$ |
| 261 | 100 000 101 | $3^2 \cdot 29$ | $6^2 + 15^2$ | $4^2 + 7^2 + 14^2$ | $1^2 + 8^2 + 14^2$ | $1^2 + 2^2 + 16^2$ |
| | 100200 | | $19^2 - 10^2$ | $45^2 - 42^2$ | $131^2 - 130^2$ | $2 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|-----------------------|---|
| 262 | 100 000 110 100201 | 2·131 $9^2 + 9^2 + 10^2$ $1^2 + 6^2 + 15^2$ $2 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ |
| 263 | 100 000 111 100202 | prime $132^2 - 131^2$ $2 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 264 | 100 001 000 100210 | $2^3 \cdot 3 \cdot 11$ $8^2 + 10^2 + 10^2$ $2^2 + 8^2 + 14^2$ $2^2 + 2^2 + 16^2$ $17^2 - 5^2$ $25^2 - 9^2$ $35^2 - 31^2$ $67^2 - 65^2$ $2 \cdot 5! + 1 \cdot 4!$ |
| 265 | 100 001 001 100211 | 5·53 $11^2 + 12^2$ $3^2 + 16^2$ $2^2 + 6^2 + 15^2$ $29^2 - 24^2$ $133^2 - 132^2$ $2 \cdot 5! + 1 \cdot 4! + 1!$ |
| 266 | 100 001 010 100212 | $2 \cdot 7 \cdot 19$ $8^2 + 9^2 + 11^2$ $1^2 + 11^2 + 12^2$ $4^2 + 9^2 + 13^2$ $4^2 + 5^2 + 15^2$ $1^2 + 3^2 + 16^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ $s_8^{(6)}$ |
| 267 | 100 001 011 100220 | 3·89 $5^2 + 11^2 + 11^2$ $7^2 + 7^2 + 13^2$ $46^2 - 43^2$ $134^2 - 133^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ |
| 268 | 100 001 100 100221 | $2^2 \cdot 67$ $6^2 + 6^2 + 14^2$ $68^2 - 66^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ |
| 269 | 100 001 101 100222 | prime $10^2 + 13^2$ $5^2 + 10^2 + 12^2$ $2^2 + 11^2 + 12^2$ $6^2 + 8^2 + 13^2$ $3^2 + 8^2 + 14^2$ $2^2 + 3^2 + 16^2$ $135^2 - 134^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ |
| 270 | 100 001 110 101000 | $2 \cdot 3^3 \cdot 5$ $7^2 + 10^2 + 11^2$ $1^2 + 10^2 + 13^2$ $5^2 + 7^2 + 14^2$ $3^2 + 6^2 + 15^2$ $3^3 + 3^3 + 6^3$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ |
| 271 | 100 001 111 101001 | prime $136^2 - 135^2$ $10^3 - 9^3$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ |
| 272 | 100 010 000 101002 | $2^4 \cdot 17$ $4^2 + 16^2$ $8^2 + 8^2 + 12^2$ $2^4 + 4^4$ $21^2 - 13^2$ $36^2 - 32^2$ $69^2 - 67^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 273 | 100 010 001 101010 | 3·7·13 $2^2 + 10^2 + 13^2$ $1^2 + 4^2 + 16^2$ $1^4 + 2^4 + 4^4$ $17^2 - 4^2$ $23^2 - 16^2$ $47^2 - 44^2$ $137^2 - 136^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 274 | 100 010 010 101011 | $2 \cdot 137$ $7^2 + 15^2$ $7^2 + 9^2 + 12^2$ $3^2 + 11^2 + 12^2$ $3^2 + 3^2 + 16^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ $s_6^{(2)}$ |
| 275 | 100 010 011 101012 | $5^2 \cdot 11$ $5^2 + 9^2 + 13^2$ $5^2 + 5^2 + 15^2$ $1^2 + 7^2 + 15^2$ $2^5 + 3^5$ $18^2 - 7^2$ $30^2 - 25^2$ $138^2 - 137^2$ $2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 276 | 100 010 100 101020 | $2^2 \cdot 3 \cdot 23$ $\frac{23}{1} n$ $4^2 + 8^2 + 14^2$ $2^2 + 4^2 + 16^2$ $1^5 + 2^5 + 3^5$ $26^2 - 20^2$ $70^2 - 68^2$ $(\frac{24}{2})$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ $-s_{24}^{(23)}$ $s_{24}^{(23)}$ |
| 277 | 100 010 101 101021 | prime $9^2 + 14^2$ $4^2 + 6^2 + 15^2$ $3^3 + 5^3 + 5^3$ $139^2 - 138^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|--|--|--|--|--|
| 278 | 100 010 110 101022 | $2 \cdot 139$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $6^2 + 11^2 + 11^2$ $20^2 - 11^2$ | $3^2 + 10^2 + 13^2$ $48^2 - 45^2$ | $1^2 + 9^2 + 14^2$ $140^2 - 139^2$ | $2^2 + 7^2 + 15^2$ $7^3 - 4^3$ |
| 279 | 100 010 111 101100 | $3^2 \cdot 31$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $20^2 - 11^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $48^2 - 45^2$ $140^2 - 139^2$ | $7^3 - 4^3$ | |
| 280 | 100 011 000 101101 | $2^3 \cdot 5 \cdot 7$ $71^2 - 69^2$ | $6^2 + 10^2 + 12^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $4^3 + 6^3$ $17^2 - 3^2$ | $19^2 - 9^2$ $19^2 - 9^2$ | $37^2 - 33^2$ |
| 281 | 100 011 001 101102 | prime $2^2 + 9^2 + 14^2$ | $5^2 + 16^2$ $3^2 + 4^2 + 16^2$ | $9^2 + 10^2 + 10^2$ $1^3 + 4^3 + 6^3$ | $4^2 + 11^2 + 12^2$ $141^2 - 140^2$ | $6^2 + 7^2 + 14^2$ $2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 282 | 100 011 010 101110 | $2 \cdot 3 \cdot 47$ | $7^2 + 8^2 + 13^2$ | $1^2 + 5^2 + 16^2$ | $2 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ | |
| 283 | 100 011 011 101111 | prime $2 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $9^2 + 9^2 + 11^2$ | $3^2 + 7^2 + 15^2$ | $142^2 - 141^2$ | |
| 284 | 100 011 100 101112 | $2^2 \cdot 71$ | $72^2 - 70^2$ | $2 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| 285 | 100 011 101 101120 | $3 \cdot 5 \cdot 19$ $\sum_{n=1}^9 n^2$ | $8^2 + 10^2 + 11^2$ $17^2 - 2^2$ | $4^2 + 10^2 + 13^2$ $31^2 - 26^2$ | $5^2 + 8^2 + 14^2$ $49^2 - 46^2$ | $2^2 + 5^2 + 16^2$ $143^2 - 142^2$ |
| 286 | 100 011 110 101121 | $2 \cdot 11 \cdot 13$ $2 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $6^2 + 9^2 + 13^2$ | $3^2 + 9^2 + 14^2$ | $5^2 + 6^2 + 15^2$ | $(\frac{13}{3})$ |
| 287 | 100 011 111 101122 | $7 \cdot 41$ | $24^2 - 17^2$ | $144^2 - 143^2$ | $2 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 288 | 100 100 000 101200 | $2^5 \cdot 3^2$ $1 + 2^2 + 3^2 + 4^4$ | $12^2 + 12^2$ $17^2 - 1^2$ | $4^2 + 4^2 + 16^2$ $18^2 - 6^2$ | $2^3 + 4^3 + 6^3$ $22^2 - 14^2$ | $2^4 + 2^4 + 4^4$ $27^2 - 21^2$ |
| 289 | 100 100 001 101201 | 17^2 $2 \cdot 5! + 2 \cdot 4! + 1!$ | $8^2 + 15^2$ | $8^2 + 9^2 + 12^2$ | $1^2 + 12^2 + 12^2$ | $145^2 - 144^2$ |
| 290 | 100 100 010 101202 | $2 \cdot 5 \cdot 29$ $1^2 + 8^2 + 15^2$ | $11^2 + 13^2$ $3^2 + 5^2 + 16^2$ | $1^2 + 17^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 2!$ | $5^2 + 11^2 + 12^2$ | $4^2 + 7^2 + 15^2$ |
| 291 | 100 100 011 101210 | $3 \cdot 97$ $146^2 - 145^2$ | $7^2 + 11^2 + 11^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ | $1^2 + 11^2 + 13^2$ | $1^2 + 1^2 + 17^2$ | $50^2 - 47^2$ |
| 292 | 100 100 100 101211 | $2^2 \cdot 73$ | $6^2 + 16^2$ | $2^2 + 12^2 + 12^2$ | $74^2 - 72^2$ | $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 2!$ |
| 293 | 100 100 101 101212 | prime $1^2 + 6^2 + 16^2$ | $2^2 + 17^2$ $147^2 - 146^2$ | $7^2 + 10^2 + 12^2$ $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 2! + 1!$ | $4^2 + 9^2 + 14^2$ | $2^2 + 8^2 + 15^2$ |

(continued)

Table III (continued)

| | | |
|-----|-----------------------|--|
| 294 | 100 100 110 101220 | $2 \cdot 3 \cdot 7^2$ $5^2 + 10^2 + 13^2$ $2^2 + 11^2 + 13^2$ $7^2 + 7^2 + 14^2$ $1^2 + 2^2 + 17^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3!$ |
| 295 | 100 100 111 101221 | $5 \cdot 59$ $32^2 - 27^2$ $148^2 - 147^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1!$ |
| 296 | 100 101 000 101222 | $2^3 \cdot 37$ $10^2 + 14^2$ $6^2 + 8^2 + 14^2$ $2^2 + 6^2 + 16^2$ $39^2 - 35^2$ $75^2 - 73^2$ $8^3 - 6^3$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ $q(30)$ |
| 297 | 100 101 001 102000 | $3^3 \cdot 11$ $3^2 + 12^2 + 12^2$ $8^2 + 8^2 + 13^2$ $1^2 + 10^2 + 14^2$ $6^2 + 6^2 + 15^2$ $4^2 + 5^2 + 16^2$ $2^2 + 2^2 + 17^2$ $19^2 - 8^2$ $21^2 - 12^2$ $51^2 - 48^2$ $149^2 - 148^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ $p(17)$ |
| 298 | 100 101 010 102001 | $2 \cdot 149$ $3^2 + 17^2$ $3^2 + 8^2 + 15^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 299 | 100 101 011 102002 | $13 \cdot 23$ $7^2 + 9^2 + 13^2$ $3^2 + 11^2 + 13^2$ $5^2 + 7^2 + 15^2$ $1^2 + 3^2 + 17^2$ $18^2 - 5^2$ $150^2 - 149^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 300 | 100 101 100 102010 | $2^2 \cdot 3 \cdot 5^2$ $\sum_{n=1}^{24} n$ $10^2 + 10^2 + 10^2$ $2^2 + 10^2 + 14^2$ $20^2 - 10^2$ $28^2 - 22^2$ $76^2 - 74^2$ $(25) \quad 2 \cdot 5! + 2 \cdot 4! + 2 \cdot 3!$ $-8_{25}^{(24)} \quad q_{25}^{(24)}$ |
| 301 | 100 101 101 102011 | $7 \cdot 43$ $6^2 + 11^2 + 12^2$ $3^2 + 6^2 + 16^2$ $25^2 - 18^2$ $151^2 - 150^2$ $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1!$ $q_7^{(3)}$ |
| 302 | 100 101 110 102012 | $2 \cdot 151$ $9^2 + 10^2 + 11^2$ $5^2 + 9^2 + 14^2$ $2^2 + 3^2 + 17^2$ $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 303 | 100 101 111 102020 | $3 \cdot 101$ $52^2 - 49^2$ $152^2 - 151^2$ $2 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ |
| 304 | 100 110 000 102021 | $2^4 \cdot 19$ $4^2 + 12^2 + 12^2$ $23^2 - 15^2$ $40^2 - 36^2$ $77^2 - 75^2$ $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 305 | 100 110 001 102022 | $5 \cdot 61$ $7^2 + 16^2$ $4^2 + 17^2$ $6^2 + 10^2 + 13^2$ $3^2 + 10^2 + 14^2$ $4^2 + 8^2 + 15^2$ $33^2 - 28^2$ $153^2 - 152^2$ $2 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 306 | 100 110 010 102100 | $2 \cdot 3^2 \cdot 17$ $9^2 + 15^2$ $8^2 + 11^2 + 11^2$ $9^2 + 9^2 + 12^2$ $4^2 + 11^2 + 13^2$ $5^2 + 5^2 + 16^2$ $1^2 + 7^2 + 16^2$ $1^2 + 4^2 + 17^2$ $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ |
| 307 | 100 110 011 102101 | prime $1^2 + 9^2 + 15^2$ $3^2 + 3^2 + 17^2$ $3^3 + 4^3 + 6^3$ $2^5 + 2^5 + 3^5$ $154^2 - 153^2$ $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ |
| 308 | 100 110 100 102102 | $2^2 \cdot 7 \cdot 11$ $8^2 + 10^2 + 12^2$ $4^2 + 6^2 + 16^2$ $18^2 - 4^2$ $78^2 - 76^2$ $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 309 | 100 110 101 102110 | $3 \cdot 103$ $7^2 + 8^2 + 14^2$ $2^2 + 7^2 + 16^2$ $2^2 + 4^2 + 17^2$ $53^2 - 50^2$ $155^2 - 154^2$ $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 310 | 100 110 110 102111 | $2 \cdot 5 \cdot 31$ $6^2 + 7^2 + 15^2$ $2^2 + 9^2 + 15^2$ $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------|------------------------|--|--|---|---|
| 311 | 100 110 111 | prime | $156^2 - 155^2$ | $2 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| | 102112 | | | | | |
| 312 | 100 111 000 | $2^3 \cdot 3 \cdot 13$ | $4^2 + 10^2 + 14^2$ | $19^2 - 7^2$ | $29^2 - 23^2$ | $41^2 - 37^2$ |
| | 102120 | | $2 \cdot 5! + 3 \cdot 4!$ | | | $79^2 - 77^2$ |
| 313 | 100 111 001 | prime | $12^2 + 13^2$ | $5^2 + 12^2 + 12^2$ | $6^2 + 9^2 + 14^2$ | $157^2 - 156^2$ |
| | 102121 | | $2 \cdot 5! + 3 \cdot 4! + 1!$ | | | |
| 314 | 100 111 010 | $2 \cdot 157$ | $5^2 + 17^2$ | $7^2 + 11^2 + 12^2$ | $8^2 + 9^2 + 13^2$ | $1^2 + 12^2 + 13^2$ |
| | 102122 | | $5^2 + 8^2 + 15^2$ | $3^2 + 7^2 + 16^2$ | $3^2 + 4^2 + 17^2$ | $4^3 + 5^3 + 5^3$ |
| | | | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ | | | |
| 315 | 100 111 011 | $3^2 \cdot 5 \cdot 7$ | $5^2 + 11^2 + 13^2$ | $3^2 + 9^2 + 15^2$ | $1^2 + 5^2 + 17^2$ | $18^2 - 3^2$ |
| | 102200 | | $22^2 - 13^2$ | $26^2 - 19^2$ | $34^2 - 29^2$ | $54^2 - 51^2$ |
| | | | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ | | | $158^2 - 157^2$ |
| 316 | 100 111 100 | $2^2 \cdot 79$ | $80^2 - 78^2$ | $7^3 - 3^3$ | $2 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ | |
| | 102201 | | | | | |
| 317 | 100 111 101 | prime | $11^2 + 14^2$ | $2^2 + 12^2 + 13^2$ | $5^2 + 6^2 + 16^2$ | $159^2 - 158^2$ |
| | 102202 | | $2 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ | | | |
| 318 | 100 111 110 | $2 \cdot 3 \cdot 53$ | $7^2 + 10^2 + 13^2$ | $1^2 + 11^2 + 14^2$ | $2^2 + 5^2 + 17^2$ | |
| | 102210 | | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3!$ | | | |
| 319 | 100 111 111 | $11 \cdot 29$ | $20^2 - 9^2$ | $160^2 - 159^2$ | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ | |
| | 102211 | | | | | |
| 320 | 101 000 000 | $2^6 \cdot 5$ | $8^2 + 16^2$ | $18^2 - 2^2$ | $21^2 - 11^2$ | $24^2 - 16^2$ |
| | 102212 | | $81^2 - 79^2$ | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | r(24) | $42^2 - 38^2$ |
| 321 | 101 000 001 | $3 \cdot 107$ | $10^2 + 10^2 + 11^2$ | $5^2 + 10^2 + 14^2$ | $2^2 + 11^2 + 14^2$ | $4^2 + 7^2 + 16^2$ |
| | 102220 | | $1^2 + 8^2 + 16^2$ | $4^2 + 4^2 + 17^2$ | $55^2 - 52^2$ | $161^2 - 160^2$ |
| | | | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | |
| 322 | 101 000 010 | $2 \cdot 7 \cdot 23$ | $3^2 + 12^2 + 13^2$ | $4^2 + 9^2 + 15^2$ | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $s_8^{(6)}$ |
| | 102221 | | | | | |
| 323 | 101 000 011 | $17 \cdot 19$ | $9^2 + 11^2 + 11^2$ | $7^2 + 7^2 + 15^2$ | $3^2 + 5^2 + 17^2$ | $18^2 - 1^2$ |
| | 102222 | | $162^2 - 161^2$ | $2 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 324 | 101 000 100 | $2^2 \cdot 3^4$ | 18^2 | $6^2 + 12^2 + 12^2$ | $8^2 + 8^2 + 14^2$ | $2^2 + 8^2 + 16^2$ |
| | 110000 | | $82^2 - 80^2$ | $2 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ | | $30^2 - 24^2$ |
| 325 | 101 000 101 | $5^2 \cdot 13$ | $\sum_{n=1}^{25}$ | $10^2 + 15^2$ | $6^2 + 17^2$ | $1^2 + 18^2$ |
| | 110001 | | | $6^2 + 8^2 + 15^2$ | $19^2 - 6^2$ | $9^2 + 10^2 + 12^2$ |
| | | | | | $35^2 - 30^2$ | $163^2 - 162^2$ |
| | | | | | | $(26)_2$ |
| | | | | | | $2 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|-----------------------|--|
| 326 | 101 000 110 110002 | $2 \cdot 163$ $6^2 + 11^2 + 13^2$ $7^2 + 9^2 + 14^2$ $3^2 + 11^2 + 14^2$ $1^2 + 10^2 + 15^2$ $1^2 + 6^2 + 17^2$ $1^2 + 1^2 + 18^2$ $2 \cdot 51 + 3 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ |
| 327 | 101 000 111 110010 | $3 \cdot 109$ $56^2 - 53^2$ $164^2 - 163^2$ $2 \cdot 51 + 3 \cdot 41 + 2 \cdot 31 + 1 \cdot 21 + 11$ |
| 328 | 101 001 000 110011 | $2^3 \cdot 41$ $2^2 + 18^2$ $6^2 + 6^2 + 16^2$ $43^2 - 39^2$ $83^2 - 81^2$ $2 \cdot 51 + 3 \cdot 41 + 2 \cdot 31 + 2 \cdot 21$ |
| 329 | 101 001 001 110012 | $7 \cdot 47$ $8^2 + 11^2 + 12^2$ $4^2 + 12^2 + 13^2$ $2^2 + 10^2 + 15^2$ $3^2 + 8^2 + 16^2$ $2^2 + 6^2 + 17^2$ $1^2 + 2^2 + 18^2$ $27^2 - 20^2$ $165^2 - 164^2$ $2 \cdot 51 + 3 \cdot 41 + 2 \cdot 31 + 2 \cdot 21 + 11$ |
| 330 | 101 001 010 110020 | $2 \cdot 3 \cdot 5 \cdot 11$ $5^2 + 7^2 + 16^2$ $4^2 + 5^2 + 17^2$ $(\frac{11}{4})$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31$ |
| 331 | 101 001 011 110021 | prime $9^2 + 9^2 + 13^2$ $5^2 + 9^2 + 15^2$ $166^2 - 165^2$ $11^3 - 10^3$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31 + 11$ |
| 332 | 101 001 100 110022 | $2^2 \cdot 83$ $6^2 + 10^2 + 14^2$ $2^2 + 2^2 + 18^2$ $84^2 - 82^2$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31 + 1 \cdot 21$ |
| 333 | 101 001 101 110100 | $3^2 \cdot 37$ $3^2 + 18^2$ $8^2 + 10^2 + 13^2$ $4^2 + 11^2 + 14^2$ $23^2 - 14^2$ $57^2 - 54^2$ $167^2 - 166^2$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31 + 1 \cdot 21 + 11$ |
| 334 | 101 001 110 110101 | $2 \cdot 167$ $3^2 + 10^2 + 15^2$ $3^2 + 6^2 + 17^2$ $1^2 + 3^2 + 18^2$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31 + 2 \cdot 21$ |
| 335 | 101 001 111 110102 | $5 \cdot 67$ $36^2 - 31^2$ $168^2 - 167^2$ $7^3 - 2^3$ $2 \cdot 51 + 3 \cdot 41 + 3 \cdot 31 + 2 \cdot 21 + 11$ |
| 336 | 101 010 000 110110 | $2^4 \cdot 3 \cdot 7$ $4^2 + 8^2 + 16^2$ $19^2 - 5^2$ $20^2 - 8^2$ $25^2 - 17^2$ $31^2 - 25^2$ $44^2 - 40^2$ $85^2 - 83^2$ $2 \cdot 51 + 4 \cdot 41$ |
| 337 | 101 010 001 110111 | prime $9^2 + 16^2$ $7^2 + 12^2 + 12^2$ $2^2 + 3^2 + 18^2$ $3^4 + 4^4$ $169^2 - 168^2$ $2 \cdot 51 + 4 \cdot 41 + 11$ |
| 338 | 101 010 010 110112 | $2 \cdot 13^2$ $13^2 + 13^2$ $7^2 + 17^2$ $5^2 + 12^2 + 13^2$ $7^2 + 8^2 + 15^2$ $1^2 + 9^2 + 16^2$ $1^4 + 3^4 + 4^4$ $2 \cdot 51 + 4 \cdot 41 + 1 \cdot 21$ |
| 339 | 101 010 011 110120 | $3 \cdot 113$ $7^2 + 11^2 + 13^2$ $1^2 + 13^2 + 13^2$ $5^2 + 5^2 + 17^2$ $1^2 + 7^2 + 17^2$ $58^2 - 55^2$ $170^2 - 169^2$ $2 \cdot 51 + 4 \cdot 41 + 1 \cdot 21 + 11$ |
| 340 | 101 010 100 110121 | $2^2 \cdot 5 \cdot 17$ $12^2 + 14^2$ $4^2 + 18^2$ $22^2 - 12^2$ $86^2 - 84^2$ $2 \cdot 51 + 4 \cdot 41 + 2 \cdot 21$ $q(31)$ |
| 341 | 101 010 101 110122 | $11 \cdot 31$ $8^2 + 9^2 + 14^2$ $1^2 + 12^2 + 14^2$ $4^2 + 10^2 + 15^2$ $6^2 + 7^2 + 16^2$ $2^2 + 9^2 + 16^2$ $4^2 + 6^2 + 17^2$ $1^2 + 4^2 + 18^2$ $5^3 + 6^3$ $21^2 - 10^2$ $171^2 - 170^2$ $2 \cdot 51 + 4 \cdot 41 + 2 \cdot 21 + 11$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|--|---|--|--|--|
| 342 | 101 010 110 110200 | $2 \cdot 3^2 \cdot 19$ $2^2 + 7^2 + 17^2$ | $10^2 + 11^2 + 11^2$ $3^2 + 3^2 + 18^2$ | $2^2 + 13^2 + 13^2$ $1^3 + 5^3 + 6^3$ | $5^2 + 11^2 + 14^2$ $7^3 - 1^3$ | $6^2 + 9^2 + 15^2$ $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ |
| 343 | 101 010 111 110201 | 7^3 | $28^2 - 21^2$ | $172^2 - 171^2$ | $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 344 | 101 011 000 110202 | $2^3 \cdot 43$ $4^3 + 4^3 + 6^3$ | $10^2 + 10^2 + 12^2$ $45^2 - 41^2$ | $2^2 + 12^2 + 14^2$ $87^2 - 85^2$ | $2^2 + 4^2 + 18^2$ $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $1^3 + 7^3$ |
| 345 | 101 011 001 110210 | $3 \cdot 5 \cdot 23$ $37^2 - 32^2$ | $7^2 + 10^2 + 14^2$ $59^2 - 56^2$ | $5^2 + 8^2 + 16^2$ $173^2 - 172^2$ | $1^3 + 1^3 + 7^3$ $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | $19^2 - 4^2$ |
| 346 | 101 011 010 110211 | $2 \cdot 173$ $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $11^2 + 15^2$ | $9^2 + 11^2 + 12^2$ | $3^2 + 9^2 + 16^2$ | |
| 347 | 101 011 011 110212 | prime $2 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $3^2 + 13^2 + 13^2$ | $1^2 + 11^2 + 15^2$ | $3^2 + 7^2 + 17^2$ | $174^2 - 173^2$ |
| 348 | 101 011 100 110220 | $2^2 \cdot 3 \cdot 29$ | $32^2 - 26^2$ | $88^2 - 86^2$ | $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ | |
| 349 | 101 011 101 110221 | prime $2^3 + 5^3 + 6^3$ | $5^2 + 18^2$ $175^2 - 174^2$ | $6^2 + 12^2 + 13^2$ | $3^2 + 12^2 + 14^2$ $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1!$ | $3^2 + 4^2 + 18^2$ |
| 350 | 101 011 110 110222 | $2 \cdot 5^2 \cdot 7$ $1^2 + 5^2 + 18^2$ | $9^2 + 10^2 + 13^2$ $(\frac{7}{4})$ | $5^2 + 10^2 + 15^2$ $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $2^2 + 11^2 + 15^2$ | $5^2 + 6^2 + 17^2$ |
| 351 | 101 011 111 111000 | $3^3 \cdot 13$ $(\frac{27}{2})$ | $\sum_{n=1}^{26} n$ $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $2^3 + 7^3$ | $20^2 - 7^2$ $24^2 - 15^2$ | $60^2 - 57^2$ $176^2 - 175^2$ |
| 352 | 101 100 000 111001 | $2^5 \cdot 11$ $89^2 - 87^2$ | $8^2 + 12^2 + 12^2$ $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $1^3 + 2^3 + 7^3$ | $19^2 - 3^2$ $26^2 - 18^2$ | $46^2 - 42^2$ |
| 353 | 101 100 001 111002 | prime $2^2 + 5^2 + 18^2$ | $8^2 + 17^2$ $2^4 + 3^4 + 4^4$ | $6^2 + 11^2 + 14^2$ $177^2 - 176^2$ | $8^2 + 8^2 + 15^2$ $2 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $4^2 + 9^2 + 16^2$ |
| 354 | 101 100 010 111010 | $2 \cdot 3 \cdot 59$ $1^2 + 8^2 + 17^2$ | $8^2 + 11^2 + 13^2$ $1^4 + 2^4 + 3^4 + 4^4$ | $4^2 + 13^2 + 13^2$ $2 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | $7^2 + 7^2 + 16^2$ | $4^2 + 7^2 + 17^2$ |
| 355 | 101 100 011 111011 | $5 \cdot 71$ $2 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1!$ | $7^2 + 9^2 + 15^2$ | $3^2 + 11^2 + 15^2$ | $38^2 - 33^2$ | $178^2 - 177^2$ |
| 356 | 101 100 100 111012 | $2^2 \cdot 89$ $90^2 - 88^2$ | $10^2 + 16^2$ $2 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $4^2 + 12^2 + 14^2$ | $6^2 + 8^2 + 16^2$ | $4^2 + 4^2 + 18^2$ |
| 357 | 101 100 101 111020 | $3 \cdot 7 \cdot 17$ $61^2 - 58^2$ | $1^2 + 10^2 + 16^2$ $179^2 - 178^2$ | $2^2 + 8^2 + 17^2$ | $19^2 - 2^2$ | $29^2 - 22^2$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|---|---|--|--|--|
| 358 | 101 100 110 111021 | 2·179 | $9^2 + 9^2 + 14^2$ | $3^2 + 5^2 + 18^2$ | $2 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | |
| 359 | 101 100 111 111022 | prime | $2^3 + 2^3 + 7^3$ | $180^2 - 179^2$ | $2 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 360 | 101 101 000 111100 | $2^3 \cdot 3^2 \cdot 5$ $21^2 - 9^2$ | $6^2 + 18^2$ $23^2 - 13^2$ | $8^2 + 10^2 + 14^2$ $33^2 - 27^2$ | $2^2 + 10^2 + 16^2$ $47^2 - 43^2$ | $19^2 - 1^2$ $91^2 - 89^2$ $3 \cdot 5!$ |
| 361 | 101 101 001 111101 | 19^2 $3 \cdot 5! + 1!$ | $6^2 + 10^2 + 15^2$ | $6^2 + 6^2 + 17^2$ | $1^2 + 6^2 + 18^2$ | $181^2 - 180^2$ |
| 362 | 101 101 010 111102 | 2·181 $3^2 + 8^2 + 17^2$ | $1^2 + 19^2$ $3 \cdot 5! + 1 \cdot 2!$ | $7^2 + 12^2 + 13^2$ | $4^2 + 11^2 + 15^2$ | $5^2 + 9^2 + 16^2$ |
| 363 | 101 101 011 111110 | $3 \cdot 11^2$ $22^2 - 11^2$ | $11^2 + 11^2 + 11^2$ $62^2 - 59^2$ | $5^2 + 13^2 + 13^2$ $182^2 - 181^2$ | $5^2 + 7^2 + 17^2$ $3 \cdot 5! + 1 \cdot 2! + 1!$ | $1^2 + 1^2 + 19^2$ |
| 364 | 101 101 100 111111 | $2^2 \cdot 7 \cdot 13$ | $2^2 + 6^2 + 18^2$ | $20^2 - 6^2$ | $92^2 - 90^2$ | $\binom{14}{3}$ $3 \cdot 5! + 2 \cdot 2!$ |
| 365 | 101 101 101 111112 | 5·73 | $13^2 + 14^2$ $3^2 + 10^2 + 16^2$ | $2^2 + 19^2$ $4^2 + 5^2 + 18^2$ | $10^2 + 11^2 + 12^2$ $39^2 - 34^2$ | $5^2 + 12^2 + 14^2$ $183^2 - 182^2$ $3 \cdot 5! + 2 \cdot 2! + 1!$ |
| 366 | 101 101 110 111120 | 2·3·61 | $7^2 + 11^2 + 14^2$ | $1^2 + 13^2 + 14^2$ | $1^2 + 2^2 + 19^2$ | $3 \cdot 5! + 1 \cdot 3!$ |
| 367 | 101 101 111 111121 | prime | $184^2 - 183^2$ | $3 \cdot 5! + 1 \cdot 3! + 1!$ | | |
| 368 | 101 110 000 111122 | $2^4 \cdot 23$ | $3^3 + 5^3 + 6^3$ | $27^2 - 19^2$ | $48^2 - 44^2$ | $93^2 - 91^2$ |
| 369 | 101 110 001 111200 | $3^2 \cdot 41$ | $12^2 + 15^2$ | $9^2 + 12^2 + 12^2$ | $10^2 + 10^2 + 13^2$ | $2^2 + 13^2 + 14^2$ |
| | | | $7^2 + 8^2 + 16^2$ | $4^2 + 8^2 + 17^2$ | $3^2 + 6^2 + 18^2$ | $2^2 + 2^2 + 19^2$ |
| | | | $63^2 - 60^2$ | $185^2 - 184^2$ | $5^4 - 4^4$ | $25^2 - 16^2$ |
| | | | | | | $3 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 370 | 101 110 010 111201 | 2·5·37 | $9^2 + 17^2$ | $3^2 + 19^2$ | $8^2 + 9^2 + 15^2$ | $1^2 + 12^2 + 15^2$ |
| | | | | | | $3^3 + 7^3$ |
| | | | | | | $3 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ |
| 371 | 101 110 011 111202 | 7·53 | $9^2 + 11^2 + 13^2$ | $5^2 + 11^2 + 15^2$ | $1^2 + 9^2 + 17^2$ | $1^2 + 3^2 + 19^2$ |
| | | | $1^3 + 3^3 + 7^3$ | $30^2 - 23^2$ | $186^2 - 185^2$ | $3 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 372 | 101 110 100 111210 | $2^2 \cdot 3 \cdot 31$ | $4^2 + 10^2 + 16^2$ | $34^2 - 28^2$ | $94^2 - 92^2$ | $3 \cdot 5! + 2 \cdot 3!$ |
| 373 | 101 110 101 111211 | prime | $7^2 + 18^2$ | $2^2 + 12^2 + 15^2$ | $6^2 + 9^2 + 16^2$ | $187^2 - 186^2$ |
| | | | | | | $3 \cdot 5! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------|---|-----------------------------|---|---|---|
| 374 | 101 110 110 | $2 \cdot 11 \cdot 17$ | $6^2 + 13^2 + 13^2$ | $3^2 + 13^2 + 14^2$ | $7^2 + 10^2 + 15^2$ | $6^2 + 7^2 + 17^2$ |
| | 111212 | $2^2 + 9^2 + 17^2$ | $5^2 + 5^2 + 18^2$ | $1^2 + 7^2 + 18^2$ | $2^2 + 3^2 + 19^2$ | $3 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ |
| 375 | 101 110 111 | $3 \cdot 5^3$ | $5^3 + 5^3 + 5^3$ | $20^2 - 5^2$ | $40^2 - 35^2$ | $64^2 - 61^2$ |
| | 111220 | $3 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | | | $188^2 - 187^2$ |
| 376 | 101 111 000 | $2^3 \cdot 47$ | $6^2 + 12^2 + 14^2$ | $4^2 + 6^2 + 18^2$ | $49^2 - 45^2$ | $95^2 - 93^2$ |
| | 111221 | $3 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ | | automorphic | | |
| 377 | 101 111 001 | $13 \cdot 29$ | $11^2 + 16^2$ | $4^2 + 19^2$ | $8^2 + 12^2 + 13^2$ | $9^2 + 10^2 + 14^2$ |
| | 111222 | $2^2 + 7^2 + 18^2$ | $21^2 - 8^2$ | $189^2 - 188^2$ | $3 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 378 | 101 111 010 | $2 \cdot 3^3 \cdot 7$ | $\frac{27}{1} n$ | $3^2 + 12^2 + 15^2$ | $1^2 + 11^2 + 16^2$ | $5^2 + 8^2 + 17^2$ |
| | 112000 | $1^2 + 4^2 + 19^2$ | $2^3 + 3^3 + 7^3$ | $(\frac{28}{2})$ | $3 \cdot 5! + 3 \cdot 3!$ | |
| 379 | 101 111 011 | prime | $3^2 + 9^2 + 17^2$ | $3^2 + 3^2 + 19^2$ | $190^2 - 189^2$ | $3 \cdot 5! + 3 \cdot 3! + 1!$ |
| | 112001 | | | | | |
| 380 | 101 111 100 | $2^2 \cdot 5 \cdot 19$ | $24^2 - 14^2$ | $96^2 - 94^2$ | $3 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ | |
| | 112002 | | | | | |
| 381 | 101 111 101 | $3 \cdot 127$ | $8^2 + 11^2 + 14^2$ | $4^2 + 13^2 + 14^2$ | $5^2 + 10^2 + 16^2$ | $2^2 + 11^2 + 16^2$ |
| | 112010 | $2^2 + 4^2 + 19^2$ | $65^2 - 62^2$ | $191^2 - 190^2$ | $3 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 382 | 101 111 110 | $2 \cdot 191$ | $6^2 + 11^2 + 15^2$ | $3^2 + 7^2 + 18^2$ | $3 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ | |
| | 112011 | | | | | |
| 383 | 101 111 111 | prime | $192^2 - 191^2$ | $3 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | r(25) | |
| | 112012 | | | | | |
| 384 | 110 000 000 | $2^7 \cdot 3$ | $2 \cdot 4 \cdot 6 \cdot 8$ | $8^2 + 8^2 + 16^2$ | $2^7 + 2^7 + 2^7$ | $20^2 - 4^2$ |
| | 112020 | $28^2 - 20^2$ | $35^2 - 29^2$ | $50^2 - 46^2$ | $97^2 - 95^2$ | $3 \cdot 5! + 1 \cdot 4!$ |
| 385 | 110 000 001 | $5 \cdot 7 \cdot 11$ | $4^2 + 12^2 + 15^2$ | $5^2 + 6^2 + 18^2$ | $\frac{10}{1} n^2$ | $23^2 - 12^2$ |
| | 112021 | $41^2 - 36^2$ | $193^2 - 192^2$ | $3 \cdot 5! + 1 \cdot 4! + 1!$ | p(18) | $31^2 - 24^2$ |
| 386 | 110 000 010 | $2 \cdot 193$ | $5^2 + 19^2$ | $11^2 + 11^2 + 12^2$ | $7^2 + 9^2 + 16^2$ | $3^2 + 11^2 + 16^2$ |
| | 112022 | $4^2 + 9^2 + 17^2$ | $3^2 + 4^2 + 19^2$ | $9^3 - 7^3$ | $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ | |
| 387 | 110 000 011 | $3^2 \cdot 43$ | $7^2 + 13^2 + 13^2$ | $9^2 + 9^2 + 15^2$ | $7^2 + 7^2 + 17^2$ | $1^2 + 5^2 + 19^2$ |
| | 112100 | $26^2 - 17^2$ | $66^2 - 63^2$ | $194^2 - 193^2$ | $8^3 - 5^3$ | $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ |
| 388 | 110 000 100 | $2^2 \cdot 97$ | $8^2 + 18^2$ | $10^2 + 12^2 + 12^2$ | $98^2 - 96^2$ | $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ |
| | 112101 | | | | | |
| 389 | 110 000 101 | prime | $10^2 + 17^2$ | $7^2 + 12^2 + 14^2$ | $8^2 + 10^2 + 15^2$ | $6^2 + 8^2 + 17^2$ |
| | 112102 | $4^2 + 7^2 + 18^2$ | $1^2 + 8^2 + 18^2$ | $195^2 - 194^2$ | $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ | |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|--|--|---|---|---|
| 390 | 110 000 110 112110 | $2 \cdot 3 \cdot 5 \cdot 13$ $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ | $10^2 + 11^2 + 13^2$ $q(32)$ | $5^2 + 13^2 + 14^2$ | $1^2 + 10^2 + 17^2$ | $2^2 + 5^2 + 19^2$ |
| 391 | 110 000 111 112111 | $17 \cdot 23$ | $20^2 - 3^2$ | $196^2 - 195^2$ | $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 392 | 110 001 000 112112 | $2^3 \cdot 7^2$ $51^2 - 47^2$ | $11^2 + 14^2$ $99^2 - 97^2$ | $6^2 + 10^2 + 16^2$ $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $2^2 + 8^2 + 18^2$ | $21^2 - 7^2$ |
| 393 | 110 001 001 112120 | $3 \cdot 131$ $67^2 - 64^2$ | $1^2 + 14^2 + 14^2$ $197^2 - 196^2$ | $4^2 + 11^2 + 16^2$ $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | $2^2 + 10^2 + 17^2$ | $4^2 + 4^2 + 19^2$ |
| 394 | 110 001 010 112121 | $2 \cdot 197$ $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $13^2 + 15^2$ | $9^2 + 12^2 + 13^2$ | $5^2 + 12^2 + 15^2$ | |
| 395 | 110 001 011 112122 | $5 \cdot 79$ $42^2 - 37^2$ | $7^2 + 11^2 + 15^2$ $198^2 - 197^2$ | $1^2 + 13^2 + 15^2$ $3 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $5^2 + 9^2 + 17^2$ | $3^2 + 5^2 + 19^2$ |
| 396 | 110 001 100 112200 | $2^2 \cdot 3^2 \cdot 11$ $36^2 - 30^2$ | $10^2 + 10^2 + 14^2$ $100^2 - 98^2$ | $2^2 + 14^2 + 14^2$ $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | $6^2 + 6^2 + 18^2$ | $20^2 - 2^2$ |
| 397 | 110 001 101 112201 | prime $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $6^2 + 19^2$ | $3^2 + 8^2 + 18^2$ | $3^3 + 3^3 + 7^3$ | $199^2 - 198^2$ $12^3 - 11^3$ |
| 398 | 110 001 110 112202 | $2 \cdot 199$ $1^2 + 6^2 + 19^2$ | $9^2 + 11^2 + 14^2$ $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $2^2 + 13^2 + 15^2$ | $3^2 + 10^2 + 17^2$ | $5^2 + 7^2 + 18^2$ |
| 399 | 110 001 111 112210 | $3 \cdot 7 \cdot 19$ $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $20^2 - 1^2$ | $32^2 - 25^2$ | $68^2 - 65^2$ | $200^2 - 199^2$ |
| 400 | 110 010 000 112211 | $2^4 \cdot 5^2$ $101^2 - 99^2$ | 20^2 $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $12^2 + 16^2$ | $25^2 - 15^2$ | $29^2 - 21^2$ $52^2 - 48^2$ |
| 401 | 110 010 001 112212 | prime $1^2 + 12^2 + 16^2$ | $1^2 + 20^2$ $2^2 + 6^2 + 19^2$ | $6^2 + 13^2 + 14^2$ $201^2 - 200^2$ | $3^2 + 14^2 + 14^2$ $3 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $8^2 + 9^2 + 16^2$ |
| 402 | 110 010 010 112220 | $2 \cdot 3 \cdot 67$ $1^2 + 1^2 + 20^2$ | $8^2 + 13^2 + 13^2$ $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ | $5^2 + 11^2 + 16^2$ | $7^2 + 8^2 + 17^2$ | $4^2 + 5^2 + 19^2$ |
| 403 | 110 010 011 112221 | $13 \cdot 31$ | $3^2 + 13^2 + 15^2$ | $22^2 - 9^2$ | $202^2 - 201^2$ | $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ |
| 404 | 110 010 100 112222 | $2^2 \cdot 101$ $102^2 - 100^2$ | $2^2 + 20^2$ $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $8^2 + 12^2 + 14^2$ | $2^2 + 12^2 + 16^2$ | $4^2 + 8^2 + 18^2$ |
| 405 | 110 010 101 120000 | $3^4 \cdot 5$ $1^2 + 2^2 + 20^2$ | $9^2 + 18^2$ $4^3 + 5^3 + 6^3$ | $6^2 + 12^2 + 15^2$ $21^2 - 6^2$ | $7^2 + 10^2 + 16^2$ $27^2 - 18^2$ | $4^2 + 10^2 + 17^2$ $43^2 - 38^2$ |
| | | | $69^2 - 66^2$ | $203^2 - 202^2$ | $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |

(continued)

Table III (continued)

| | | | | | |
|-----|-----------------------|--|--|--|--|
| 406 | 110 010 110 120001 | $2 \cdot 7 \cdot 29$ $\frac{2^8}{1} n$ $3^2 + 6^2 + 19^2$ (2^9) | $9^2 + 10^2 + 15^2$ $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $6^2 + 9^2 + 17^2$ $3 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | $1^2 + 9^2 + 18^2$ |
| 407 | 110 010 111 120002 | $11 \cdot 37$ | $4^3 + 7^3$ | $24^2 - 13^2$ | $204^2 - 203^2$ |
| 408 | 110 011 000 120010 | $2^3 \cdot 3 \cdot 17$ $37^2 - 31^2$ | $4^2 + 14^2 + 14^2$ $53^2 - 49^2$ | $2^2 + 2^2 + 20^2$ $103^2 - 101^2$ | $1^3 + 4^3 + 7^3$ $3 \cdot 5! + 2 \cdot 4!$ |
| 409 | 110 011 001 120011 | prime | $3^2 + 20^2$ $2^2 + 9^2 + 18^2$ | $11^2 + 12^2 + 12^2$ $205^2 - 204^2$ | $3^2 + 12^2 + 16^2$ $3 \cdot 5! + 2 \cdot 4! + 1!$ |
| 410 | 110 011 010 120012 | $2 \cdot 5 \cdot 41$ | $11^2 + 17^2$ $1^2 + 3^2 + 20^2$ | $7^2 + 19^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 21$ | $8^2 + 11^2 + 15^2$ $4^2 + 13^2 + 15^2$ |
| 411 | 110 011 011 120020 | $3 \cdot 137$ | $11^2 + 11^2 + 13^2$ $70^2 - 67^2$ | $1^2 + 11^2 + 17^2$ $206^2 - 205^2$ | $5^2 + 5^2 + 19^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ |
| 412 | 110 011 100 120021 | $2^2 \cdot 103$ | $104^2 - 102^2$ | $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 2!$ | |
| 413 | 110 011 101 120022 | $7 \cdot 59$ | $10^2 + 12^2 + 13^2$ $2^2 + 3^2 + 20^2$ | $6^2 + 11^2 + 16^2$ $33^2 - 26^2$ | $5^2 + 8^2 + 18^2$ $207^2 - 206^2$ |
| 414 | 110 011 110 120100 | $2 \cdot 3^2 \cdot 23$ | $7^2 + 13^2 + 14^2$ $2^2 + 7^2 + 19^2$ | $5^2 + 10^2 + 17^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 3!$ | $2^2 + 11^2 + 17^2$ $3^2 + 9^2 + 18^2$ |
| 415 | 110 011 111 120101 | $5 \cdot 83$ | $2^3 + 4^3 + 7^3$ | $44^2 - 39^2$ | $208^2 - 207^2$ |
| 416 | 110 100 000 120102 | $2^5 \cdot 13$ | $4^2 + 20^2$ $105^2 - 103^2$ | $4^2 + 12^2 + 16^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $21^2 - 5^2$ $30^2 - 22^2$ |
| 417 | 110 100 001 120110 | $3 \cdot 139$ | $10^2 + 11^2 + 14^2$ $71^2 - 68^2$ | $5^2 + 14^2 + 14^2$ $209^2 - 208^2$ | $8^2 + 8^2 + 17^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 418 | 110 100 010 120111 | $2 \cdot 11 \cdot 19$ | $7^2 + 12^2 + 15^2$ | $9^2 + 9^2 + 16^2$ | $3^2 + 3^2 + 20^2$ |
| 419 | 110 100 011 120112 | prime | $9^2 + 13^2 + 13^2$ $3^2 + 7^2 + 19^2$ | $5^2 + 13^2 + 15^2$ $210^2 - 209^2$ | $7^2 + 9^2 + 17^2$ $3 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 420 | 110 100 100 120120 | $2^2 \cdot 3 \cdot 5 \cdot 7$ | $8^2 + 10^2 + 16^2$ $38^2 - 32^2$ | $2^2 + 4^2 + 20^2$ $106^2 - 104^2$ | $22^2 - 8^2$ $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3!$ |
| 421 | 110 100 101 120121 | prime | $14^2 + 15^2$ | $9^2 + 12^2 + 14^2$ | $4^2 + 9^2 + 18^2$ |
| | | | $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1!$ | | $211^2 - 210^2$ |

(continued)

Table III (continued)

| | | |
|-----|-----------------------|---|
| 422 | 110 100 110 120122 | $2 \cdot 211$ $1^2 + 14^2 + 15^2$ $7^2 + 7^2 + 18^2$ $5^2 + 6^2 + 19^2$ $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 423 | 110 100 111 120200 | $3^2 \cdot 47$ $28^2 - 19^2$ $72^2 - 69^2$ $212^2 - 211^2$ $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 424 | 110 101 000 120201 | $2^3 \cdot 53$ $10^2 + 18^2$ $6^2 + 8^2 + 18^2$ $55^2 - 51^2$ $107^2 - 105^2$ $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 425 | 110 101 001 120202 | $5^2 \cdot 17$ $13^2 + 16^2$ $8^2 + 19^2$ $5^2 + 20^2$ $10^2 + 10^2 + 15^2$ $2^2 + 14^2 + 15^2$ $5^2 + 12^2 + 16^2$ $6^2 + 10^2 + 17^2$ $1^2 + 10^2 + 18^2$ $3^2 + 4^2 + 20^2$ $21^2 - 4^2$ $45^2 - 40^2$ $213^2 - 212^2$ $3 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 426 | 110 101 010 120210 | $2 \cdot 3 \cdot 71$ $7^2 + 11^2 + 16^2$ $1^2 + 13^2 + 16^2$ $4^2 + 11^2 + 17^2$ $4^2 + 7^2 + 19^2$ $1^2 + 8^2 + 19^2$ $1^2 + 5^2 + 20^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ |
| 427 | 110 101 011 120211 | $7 \cdot 61$ $9^2 + 11^2 + 15^2$ $34^2 - 27^2$ $214^2 - 213^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ |
| 428 | 110 101 100 120212 | $2^2 \cdot 107$ $6^2 + 14^2 + 14^2$ $2^2 + 10^2 + 18^2$ $108^2 - 106^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 429 | 110 101 101 120220 | $3 \cdot 11 \cdot 13$ $8^2 + 13^2 + 14^2$ $2^2 + 13^2 + 16^2$ $2^2 + 8^2 + 19^2$ $2^2 + 5^2 + 20^2$ $23^2 - 10^2$ $25^2 - 14^2$ $73^2 - 70^2$ $215^2 - 214^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 430 | 110 101 110 120221 | $2 \cdot 5 \cdot 43$ $6^2 + 13^2 + 15^2$ $3^2 + 14^2 + 15^2$ $5^2 + 9^2 + 18^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 431 | 110 101 111 120222 | prime $216^2 - 215^2$ $3 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 432 | 110 110 000 121000 | $2^4 \cdot 3^3$ $12^2 + 12^2 + 12^2$ $4^2 + 4^2 + 20^2$ $6^3 + 6^3$ $21^2 - 3^2$ $24^2 - 12^2$ $31^2 - 23^2$ $39^2 - 33^2$ $56^2 - 52^2$ $109^2 - 107^2$ $3 \cdot 5! + 3 \cdot 4!$ |
| 433 | 110 110 001 121001 | prime $12^2 + 17^2$ $8^2 + 12^2 + 15^2$ $3^2 + 10^2 + 18^2$ $6^2 + 6^2 + 19^2$ $1^3 + 6^3 + 6^3$ $217^2 - 216^2$ $3 \cdot 5! + 3 \cdot 4! + 1!$ |
| 434 | 110 110 010 121002 | $2 \cdot 7 \cdot 31$ $11^2 + 12^2 + 13^2$ $3^2 + 13^2 + 16^2$ $8^2 + 9^2 + 17^2$ $1^2 + 12^2 + 17^2$ $3^2 + 8^2 + 19^2$ $3^2 + 5^2 + 20^2$ $3^3 + 4^3 + 7^3$ $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ |
| 435 | 110 110 011 121010 | $3 \cdot 5 \cdot 29$ $\sum_{n=1}^{29} n$ $5^2 + 11^2 + 17^2$ $5^2 + 7^2 + 19^2$ $22^2 - 7^2$ $46^2 - 41^2$ $74^2 - 71^2$ $218^2 - 217^2$ $(\frac{30}{2})$ $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ |
| 436 | 110 110 100 121011 | $2^2 \cdot 109$ $6^2 + 20^2$ $6^2 + 12^2 + 16^2$ $110^2 - 108^2$ $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ |
| 437 | 110 110 101 121012 | $19 \cdot 23$ $4^2 + 14^2 + 15^2$ $9^2 + 10^2 + 16^2$ $2^2 + 12^2 + 17^2$ $7^2 + 8^2 + 18^2$ $1^2 + 6^2 + 20^2$ $21^2 - 2^2$ $219^2 - 218^2$ $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------|-------------------------|--|--|--|--|
| 438 | 110 110 110 | $2 \cdot 3 \cdot 73$ | $10^2 + 13^2 + 13^2$ | $11^2 + 11^2 + 14^2$ | $7^2 + 10^2 + 17^2$ | |
| | 121020 | | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3!$ | | | |
| 439 | 110 110 111 | prime | $220^2 - 219^2$ | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| | 121021 | | | | | |
| 440 | 110 111 000 | $2^3 \cdot 5 \cdot 11$ | $10^2 + 12^2 + 14^2$ | $4^2 + 10^2 + 18^2$ | $2^2 + 6^2 + 20^2$ | $2^3 + 6^3 + 6^3$ |
| | 121022 | $21^2 - 1^2$ | $27^2 - 17^2$ | $57^2 - 53^2$ | $111^2 - 109^2$ | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 441 | 110 111 001 | $3^2 \cdot 7^2$ | 21^2 | $7^2 + 14^2 + 14^2$ | $8^2 + 11^2 + 16^2$ | $4^2 + 13^2 + 16^2$ |
| | 121100 | | | $4^2 + 8^2 + 19^2$ | $4^2 + 5^2 + 20^2$ | $\frac{6}{\Sigma n^3} 29^2 - 20^2$ |
| | | $35^2 - 28^2$ | $75^2 - 72^2$ | $221^2 - 220^2$ | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 442 | 110 111 010 | $2 \cdot 13 \cdot 17$ | $9^2 + 19^2$ | $1^2 + 21^2$ | $3^2 + 12^2 + 17^2$ | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| | 121101 | | | | | |
| 443 | 110 111 011 | prime | $7^2 + 13^2 + 15^2$ | $1^2 + 9^2 + 19^2$ | $1^2 + 1^2 + 21^2$ | $222^2 - 221^2$ |
| | 121102 | | $3 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | | | |
| 444 | 110 111 100 | $2^2 \cdot 3 \cdot 37$ | $40^2 - 34^2$ | $112^2 - 110^2$ | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ | |
| | 121110 | | | | | |
| 445 | 110 111 101 | 5·89 | $11^2 + 18^2$ | $2^2 + 21^2$ | $3^2 + 6^2 + 20^2$ | $47^2 - 42^2$ |
| | 121111 | | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ | | | |
| 446 | 110 111 110 | $2 \cdot 223$ | $9^2 + 13^2 + 14^2$ | $10^2 + 11^2 + 15^2$ | $5^2 + 14^2 + 15^2$ | $6^2 + 11^2 + 17^2$ |
| | 121112 | | $1^2 + 11^2 + 18^2$ | $6^2 + 7^2 + 19^2$ | $2^2 + 9^2 + 19^2$ | $1^2 + 2^2 + 21^2$ |
| | | | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | | | |
| 447 | 110 111 111 | $3 \cdot 149$ | $76^2 - 73^2$ | $224^2 - 223^2$ | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| | 121120 | | | | | |
| 448 | 111 000 000 | $2^6 \cdot 7$ | $22^2 - 6^2$ | $23^2 - 9^2$ | $32^2 - 24^2$ | $58^2 - 54^2$ |
| | 121121 | $8^3 - 4^3$ | | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | q(33) | |
| 449 | 111 000 001 | prime | $7^2 + 20^2$ | $7^2 + 12^2 + 16^2$ | $4^2 + 12^2 + 17^2$ | $5^2 + 10^2 + 18^2$ |
| | 121122 | | $2^2 + 11^2 + 18^2$ | $2^2 + 2^2 + 21^2$ | $225^2 - 224^2$ | $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 450 | 111 000 010 | $2 \cdot 3^2 \cdot 5^2$ | $15^2 + 15^2$ | $3^2 + 21^2$ | $9^2 + 12^2 + 15^2$ | $5^2 + 13^2 + 16^2$ |
| | 121200 | | $5^2 + 8^2 + 19^2$ | $5^2 + 5^2 + 20^2$ | $1^2 + 7^2 + 20^2$ | $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3!$ |
| 451 | 111 000 011 | $11 \cdot 41$ | $1^2 + 15^2 + 15^2$ | $9^2 + 9^2 + 17^2$ | $3^2 + 9^2 + 19^2$ | $1^2 + 3^2 + 21^2$ |
| | 121201 | | $26^2 - 15^2$ | $226^2 - 225^2$ | $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1!$ | |
| 452 | 111 000 100 | $2^2 \cdot 113$ | $14^2 + 16^2$ | $8^2 + 8^2 + 18^2$ | $4^2 + 6^2 + 20^2$ | $114^2 - 112^2$ |
| | 121202 | | $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | | |
| 453 | 111 000 101 | $3 \cdot 151$ | $1^2 + 14^2 + 16^2$ | $8^2 + 10^2 + 17^2$ | $2^2 + 7^2 + 20^2$ | $77^2 - 74^2$ |
| | 121210 | | $227^2 - 226^2$ | $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | | |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|--|--|---|---|--|
| 454 | 111 000 110 121211 | $2 \cdot 227$ $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $2^2 + 15^2 + 15^2$ $36^2 - 29^2$ | $7^2 + 9^2 + 18^2$ $48^2 - 43^2$ | $3^2 + 11^2 + 18^2$ $228^2 - 227^2$ | $2^2 + 3^2 + 21^2$ $(\frac{15}{3})$ |
| 455 | 111 000 111 121212 | $5 \cdot 7 \cdot 13$ $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | $24^2 - 11^2$ $3 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | $36^2 - 29^2$ | $48^2 - 43^2$ | $228^2 - 227^2$ |
| 456 | 111 001 000 121220 | $2^3 \cdot 3 \cdot 19$ $41^2 - 35^2$ | $8^2 + 14^2 + 14^2$ $59^2 - 55^2$ | $10^2 + 10^2 + 16^2$ $115^2 - 113^2$ | $2^2 + 14^2 + 16^2$ $3 \cdot 5! + 4 \cdot 4!$ | $25^2 - 13^2$ |
| 457 | 111 001 001 121221 | prime $3 \cdot 5! + 4 \cdot 4! + 1!$ | $4^2 + 21^2$ $3^2 + 7^2 + 20^2$ | $12^2 + 12^2 + 13^2$ $1^2 + 4^2 + 21^2$ | $6^2 + 14^2 + 15^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ | $229^2 - 228^2$ |
| 458 | 111 001 010 121222 | $2 \cdot 229$ $4^2 + 9^2 + 19^2$ | $13^2 + 17^2$ $3^2 + 7^2 + 20^2$ | $8^2 + 13^2 + 15^2$ $1^2 + 4^2 + 21^2$ | $9^2 + 11^2 + 16^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ | $5^2 + 12^2 + 17^2$ |
| 459 | 111 001 011 122000 | $3^3 \cdot 17$ $7^2 + 7^2 + 19^2$ | $11^2 + 13^2 + 13^2$ $3^2 + 3^2 + 21^2$ | $3^2 + 15^2 + 15^2$ $22^2 - 5^2$ | $7^2 + 11^2 + 17^2$ $30^2 - 21^2$ | $1^2 + 13^2 + 17^2$ $78^2 - 75^2$ |
| | | $230^2 - 229^2$ | | $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 2! + 1!$ | | |
| 460 | 111 001 100 122001 | $2^2 \cdot 5 \cdot 23$ $3^2 + 11^2$ | $6^2 + 10^2 + 18^2$ $28^2 - 18^2$ | $28^2 - 18^2$ $116^2 - 114^2$ | $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 2!$ | |
| 461 | 111 001 101 122002 | prime $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 2! + 1!$ | $10^2 + 19^2$ $4^2 + 11^2 + 18^2$ | $11^2 + 12^2 + 14^2$ $6^2 + 8^2 + 19^2$ | $6^2 + 13^2 + 16^2$ $5^2 + 6^2 + 20^2$ | $3^2 + 14^2 + 16^2$ $2^2 + 4^2 + 21^2$ |
| 462 | 111 001 110 122010 | $2 \cdot 3 \cdot 7 \cdot 11$ $\beta_9^{(7)}$ | $2^2 + 13^2 + 17^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $1^2 + 10^2 + 19^2$ | $(\frac{11}{5})$ | $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ |
| 463 | 111 001 111 122011 | prime $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ | $232^2 - 231^2$ | $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| 464 | 111 010 000 122012 | $2^4 \cdot 29$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $8^2 + 20^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $8^2 + 12^2 + 16^2$ $33^2 - 25^2$ | $60^2 - 56^2$ $117^2 - 115^2$ | |
| 465 | 111 010 001 122020 | $3 \cdot 5 \cdot 31$ $1^2 + 8^2 + 20^2$ | $\frac{30}{2} n$ $23^2 - 8^2$ | $10^2 + 13^2 + 14^2$ $49^2 - 44^2$ | $2^2 + 10^2 + 19^2$ $79^2 - 76^2$ | $4^2 + 7^2 + 20^2$ $233^2 - 232^2$ |
| | | | | $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | $(\frac{31}{2})$ |
| 466 | 111 010 010 122021 | $2 \cdot 233$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $5^2 + 21^2$ $4^2 + 15^2 + 15^2$ | $4^2 + 15^2 + 15^2$ $3^2 + 4^2 + 21^2$ | $3^2 + 4^2 + 21^2$ $5^3 + 5^3 + 6^3$ | |
| 467 | 111 010 011 122022 | prime $234^2 - 233^2$ | $11^2 + 11^2 + 15^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $3^2 + 13^2 + 17^2$ $3 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $5^2 + 9^2 + 19^2$ $7^2 + 5^2 + 21^2$ | |
| 468 | 111 010 100 122100 | $2^2 \cdot 3^2 \cdot 13$ $22^2 - 4^2$ | $12^2 + 18^2$ $42^2 - 36^2$ | $4^2 + 14^2 + 16^2$ $118^2 - 116^2$ | $2^2 + 8^2 + 20^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ | $5^3 + 7^3$ |
| 469 | 111 010 101 122101 | $7 \cdot 67$ $1^3 + 5^3 + 7^3$ | $10^2 + 12^2 + 15^2$ $37^2 - 30^2$ | $6^2 + 12^2 + 17^2$ $235^2 - 234^2$ | $8^2 + 9^2 + 18^2$ $13^3 - 12^3$ | $1^2 + 12^2 + 18^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-----------------------|---|---|---|--|---|
| 470 | 111 010 110 122102 | $2 \cdot 5 \cdot 47$ $2^2 + 5^2 + 21^2$ | $7^2 + 14^2 + 15^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $9^2 + 10^2 + 17^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $5^2 + 11^2 + 18^2$ $236^2 - 235^2$ | $3^2 + 10^2 + 19^2$ |
| 471 | 111 010 111 122110 | $3 \cdot 157$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $4^3 + 4^3 + 7^3$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $80^2 - 77^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $236^2 - 235^2$ | |
| 472 | 111 011 000 122111 | $2^3 \cdot 59$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $2^2 + 12^2 + 18^2$ $3 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $6^2 + 6^2 + 20^2$ $61^2 - 57^2$ | $61^2 - 57^2$ $119^2 - 117^2$ | |
| 473 | 111 011 001 122112 | $11 \cdot 43$ $27^2 - 16^2$ | $9^2 + 14^2 + 14^2$ $237^2 - 236^2$ | $7^2 + 10^2 + 18^2$ $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $3^2 + 8^2 + 20^2$ $3 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | $4^2 + 4^2 + 21^2$ |
| 474 | 111 011 010 122120 | $2 \cdot 3 \cdot 79$ $5^2 + 7^2 + 20^2$ | $7^2 + 13^2 + 16^2$ $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | $8^2 + 11^2 + 17^2$ $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | $4^2 + 13^2 + 17^2$ $7^2 + 8^2 + 19^2$ | |
| 475 | 111 011 011 122121 | $5^2 \cdot 19$ $50^2 - 45^2$ | $9^2 + 13^2 + 15^2$ $238^2 - 237^2$ | $5^2 + 15^2 + 15^2$ $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1!$ | $3^2 + 5^2 + 21^2$ $22^2 - 3^2$ | |
| 476 | 111 011 100 122122 | $2^2 \cdot 7 \cdot 17$ | $2^3 + 5^3 + 7^3$ | $24^2 - 10^2$ | $120^2 - 118^2$ | $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 477 | 111 011 101 122200 | $3^2 \cdot 53$ $4^2 + 10^2 + 19^2$ | $6^2 + 21^2$ $31^2 - 22^2$ | $10^2 + 11^2 + 16^2$ $81^2 - 78^2$ | $5^2 + 14^2 + 16^2$ $239^2 - 238^2$ | $3^2 + 12^2 + 18^2$ |
| | | | | $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 478 | 111 011 110 122201 | $2 \cdot 239$ | $6^2 + 9^2 + 19^2$ | $1^2 + 6^2 + 21^2$ | $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | r(26) |
| 479 | 111 011 111 122202 | prime | $240^2 - 239^2$ | $3 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 480 | 111 100 000 122210 | $2^5 \cdot 3 \cdot 5$ $34^2 - 26^2$ | $4^2 + 8^2 + 20^2$ $43^2 - 37^2$ | $22^2 - 2^2$ $62^2 - 58^2$ | $23^2 - 7^2$ $121^2 - 119^2$ | $26^2 - 14^2$ $4 \cdot 5!$ |
| 481 | 111 100 001 122211 | $13 \cdot 37$ | $15^2 + 16^2$ $2^2 + 6^2 + 21^2$ | $9^2 + 20^2$ $25^2 - 12^2$ | $9^2 + 12^2 + 16^2$ $241^2 - 240^2$ | $6^2 + 11^2 + 18^2$ $4 \cdot 5! + 1!$ |
| 482 | 111 100 010 122212 | $2 \cdot 241$ | $11^2 + 19^2$ $1^2 + 9^2 + 20^2$ | $12^2 + 13^2 + 13^2$ $4^2 + 5^2 + 21^2$ | $1^2 + 15^2 + 16^2$ $4 \cdot 5! + 1 \cdot 2!$ | $7^2 + 12^2 + 17^2$ |
| 483 | 111 100 011 122220 | $3 \cdot 7 \cdot 23$ | $5^2 + 13^2 + 17^2$ $82^2 - 79^2$ | $1^2 + 11^2 + 19^2$ $242^2 - 241^2$ | $22^2 - 1^2$ $4 \cdot 5! + 1 \cdot 2! + 1!$ | $38^2 - 31^2$ |
| 484 | 111 100 100 122221 | $2^2 \cdot 11^2$ | 22^2 $4 \cdot 5! + 2 \cdot 2!$ | $12^2 + 12^2 + 14^2$ $4^2 + 5^2 + 21^2$ | $4^2 + 12^2 + 18^2$ $4 \cdot 5! + 1 \cdot 2! + 1!$ | $122^2 - 120^2$ |
| 485 | 111 100 101 122222 | $5 \cdot 97$ | $14^2 + 17^2$ $6^2 + 7^2 + 20^2$ | $1^2 + 22^2$ $2^2 + 9^2 + 20^2$ | $8^2 + 14^2 + 15^2$ $51^2 - 46^2$ | $2^2 + 15^2 + 16^2$ $243^2 - 242^2$ |
| | | | | $4 \cdot 5! + 2 \cdot 2! + 1!$ | | $8^3 - 3^3$ |

(continued)

Table III (continued)

| | | |
|-----|------------------------|---|
| 486 | 111 100 110 200000 | $2 \cdot 3^5$ $3^5 + 3^5$ $11^2 + 13^2 + 14^2$ $6^2 + 15^2 + 15^2$ $1^2 + 14^2 + 17^2$ $9^2 + 9^2 + 18^2$ $5^2 + 10^2 + 19^2$ $2^2 + 11^2 + 19^2$ $3^2 + 6^2 + 21^2$ $1^2 + 1^2 + 22^2$ $4 \cdot 5! + 1 \cdot 3!$ |
| 487 | 111 100 111 2000011 | prime $244^2 - 243^2$ $4 \cdot 5! + 1 \cdot 3! + 1!$ |
| 488 | 111 101 000 200002 | $2^3 \cdot 61$ $2^2 + 22^2$ $6^2 + 14^2 + 16^2$ $8^2 + 10^2 + 18^2$ $63^2 - 59^2$ $123^2 - 121^2$ $10^3 - 8^3$ $4 \cdot 5! + 1 \cdot 3! + 1 \cdot 2!$ |
| 489 | 111 101 001 200010 | $3 \cdot 163$ $8^2 + 13^2 + 16^2$ $10^2 + 10^2 + 17^2$ $2^2 + 14^2 + 17^2$ $8^2 + 8^2 + 19^2$ $5^2 + 8^2 + 20^2$ $1^2 + 2^2 + 22^2$ $83^2 - 80^2$ $245^2 - 244^2$ $4 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 490 | 111 101 010 200011 | $2 \cdot 5 \cdot 7^2$ $7^2 + 21^2$ $11^2 + 12^2 + 15^2$ $3^2 + 15^2 + 16^2$ $3^2 + 9^2 + 20^2$ $4 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ p(19) |
| 491 | 111 101 011 200012 | prime $9^2 + 11^2 + 17^2$ $7^2 + 9^2 + 19^2$ $3^2 + 11^2 + 19^2$ $5^2 + 5^2 + 21^2$ $1^2 + 7^2 + 21^2$ $246^2 - 245^2$ $4 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 492 | 111 101 100 200020 | $2^2 \cdot 3 \cdot 41$ $10^2 + 14^2 + 14^2$ $2^2 + 2^2 + 22^2$ $44^2 - 38^2$ $124^2 - 122^2$ $4 \cdot 5! + 2 \cdot 3!$ |
| 493 | 111 101 101 200021 | $17 \cdot 29$ $13^2 + 18^2$ $3^2 + 22^2$ $5^2 + 12^2 + 18^2$ $4^2 + 6^2 + 21^2$ $23^2 - 6^2$ $247^2 - 246^2$ $4 \cdot 5! + 2 \cdot 3! + 1!$ |
| 494 | 111 101 110 200022 | $2 \cdot 13 \cdot 19$ $10^2 + 13^2 + 15^2$ $6^2 + 13^2 + 17^2$ $3^2 + 14^2 + 17^2$ $7^2 + 11^2 + 18^2$ $1^2 + 13^2 + 18^2$ $2^2 + 7^2 + 21^2$ $1^2 + 3^2 + 22^2$ $4 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ |
| 495 | 111 101 111 200100 | $3^2 \cdot 5 \cdot 11$ $3^3 + 5^3 + 7^3$ $24^2 - 9^2$ $28^2 - 17^2$ $32^2 - 23^2$ $52^2 - 47^2$ $84^2 - 81^2$ $248^2 - 247^2$ $(\frac{12}{4})$ $4 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 496 | 111 110 000 200101 | $2^4 \cdot 31$ $1 + 2 + 4 + 8 + 16 + 31 + 62 + 124 + 248$ $\sum_1^{31} n$ $4^3 + 6^3 + 6^3$ $35^2 - 27^2$ $64^2 - 60^2$ $125^2 - 123^2$ $(\frac{32}{2})$ perfect(46) $4 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ |
| 497 | 111 110 001 200102 | $7 \cdot 71$ $4^2 + 15^2 + 16^2$ $8^2 + 12^2 + 17^2$ $2^2 + 13^2 + 18^2$ $6^2 + 10^2 + 19^2$ $4^2 + 9^2 + 20^2$ $2^2 + 3^2 + 22^2$ $39^2 - 32^2$ $249^2 - 248^2$ $4 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 498 | 111 110 010 200110 | $2 \cdot 3 \cdot 83$ $11^2 + 11^2 + 16^2$ $4^2 + 11^2 + 19^2$ $7^2 + 7^2 + 20^2$ $4 \cdot 5! + 3 \cdot 3!$ |
| 499 | 111 110 011 200111 | prime $7^2 + 15^2 + 15^2$ $3^2 + 7^2 + 21^2$ $250^2 - 249^2$ $4 \cdot 5! + 3 \cdot 3! + 1!$ |
| 500 | 111 110 100 200112 | $2^2 \cdot 5^3$ $10^2 + 20^2$ $4^2 + 22^2$ $10^2 + 12^2 + 16^2$ $6^2 + 8^2 + 20^2$ $30^2 - 20^2$ $126^2 - 124^2$ $4 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------------------|--|--|--|--|---|
| 501 | 111 110 101 200120 | $3 \cdot 167$ $85^2 - 82^2$ | $7^2 + 14^2 + 16^2$ $251^2 - 250^2$ | $4^2 + 14^2 + 17^2$ $4 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $1^2 + 10^2 + 20^2$ | $1^2 + 4^2 + 22^2$ |
| 502 | 111 110 110 200121 | $2 \cdot 251$ $4 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ | $9^2 + 14^2 + 15^2$ | $3^2 + 13^2 + 18^2$ | $5^2 + 6^2 + 21^2$ | $3^2 + 3^2 + 22^2$ |
| 503 | 111 110 111 200122 | prime | $252^2 - 251^2$ | $4 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 504 | 111 111 000 200200 | $2^3 \cdot 3^2 \cdot 7$ $25^2 - 11^2$ | $6^2 + 12^2 + 18^2$ $27^2 - 15^2$ | $2^2 + 10^2 + 20^2$ $45^2 - 39^2$ | $2^2 + 4^2 + 22^2$ $65^2 - 61^2$ | $23^2 - 5^2$ $127^2 - 125^2$ $8^3 - 2^3$ |
| | | | $4 \cdot 5! + 1 \cdot 4!$ | | | |
| 505 | 111 111 001 200201 | $5 \cdot 101$ $4 \cdot 5! + 1 \cdot 4! + 1!$ | $12^2 + 19^2$ | $8^2 + 21^2$ | $9^2 + 10^2 + 18^2$ | $53^2 - 48^2$ $253^2 - 252^2$ |
| 506 | 111 111 010 200202 | $2 \cdot 11 \cdot 23$ $5^2 + 9^2 + 20^2$ | $9^2 + 13^2 + 16^2$ $4^2 + 7^2 + 21^2$ | $5^2 + 15^2 + 16^2$ $1^2 + 8^2 + 21^2$ | $8^2 + 9^2 + 19^2$ $\sum_{n=1}^{11} n^2$ | $1^2 + 12^2 + 19^2$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ |
| 507 | 111 111 011 200210 | $3 \cdot 13^2$ $86^2 - 83^2$ | $13^2 + 13^2 + 13^2$ $254^2 - 253^2$ | $7^2 + 13^2 + 17^2$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ | $5^2 + 11^2 + 19^2$ | $26^2 - 13^2$ |
| 508 | 111 111 100 200211 | $2^2 \cdot 127$ | $128^2 - 126^2$ | $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ | | |
| 509 | 111 111 101 200212 | prime | $5^2 + 22^2$ $2^2 + 12^2 + 19^2$ | $12^2 + 13^2 + 14^2$ $3^2 + 10^2 + 20^2$ | $8^2 + 11^2 + 18^2$ $2^2 + 8^2 + 21^2$ | $4^2 + 13^2 + 18^2$ $3^2 + 4^2 + 22^2$ |
| | | | $255^2 - 254^2$ | $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ | | |
| 510 | 111 111 110 200220 | $2 \cdot 3 \cdot 5 \cdot 17$ $1^2 + 5^2 + 22^2$ | $10^2 + 11^2 + 17^2$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ | $5^2 + 14^2 + 17^2$ | $7^2 + 10^2 + 19^2$ | |
| 511 | 111 111 111 200221 | $7 \cdot 73$ $\#_{10}^{(2)}$ | $40^2 - 33^2$ | $256^2 - 255^2$ | $8^3 - 1^3$ | $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ |
| 512 | 1 000 000 000 200222 | 2^9 $66^2 - 62^2$ | 8^3 $129^2 - 127^2$ | $16^2 + 16^2$ $2^2 + 5^2 + 22^2$ | $4^4 + 4^4$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $2^8 + 2^8$ $24^2 - 8^2$ $q(34)$ |
| 513 | 1 000 000 001 201000 | $3^3 \cdot 19$ $6^2 + 6^2 + 21^2$ | $11^2 + 14^2 + 14^2$ $2^2 + 5^2 + 22^2$ | $12^2 + 12^2 + 15^2$ $1^4 + 4^4 + 4^4$ | $1^2 + 16^2 + 16^2$ $1^9 + 2^9$ | $7^2 + 8^2 + 20^2$ $23^2 - 4^2$ |
| | | $33^2 - 24^2$ | $87^2 - 84^2$ | $257^2 - 256^2$ | $9^3 - 6^3$ | $1^3 + 8^3$ |
| | | $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | | |
| 514 | 1 000 000 010 201001 | $2 \cdot 257$ $3^2 + 8^2 + 21^2$ | $15^2 + 17^2$ $1^3 + 1^3 + 8^3$ | $8^2 + 15^2 + 15^2$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $9^2 + 12^2 + 17^2$ | $3^2 + 12^2 + 19^2$ |
| 515 | 1 000 000 011 201002 | $5 \cdot 103$ $258^2 - 257^2$ | $11^2 + 13^2 + 15^2$ $4 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $1^2 + 15^2 + 17^2$ | $5^2 + 7^2 + 21^2$ | $54^2 - 49^2$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------------------|---|--|---|--|---|
| 516 | 1 000 000 100 201010 | $2^2 \cdot 3 \cdot 43$ $46^2 - 40^2$ | $8^2 + 14^2 + 16^2$ $130^2 - 128^2$ | $2^2 + 16^2 + 16^2$ $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | $4^2 + 10^2 + 20^2$ | $4^2 + 4^2 + 22^2$ |
| 517 | 1 000 000 101 201011 | $11 \cdot 47$ $259^2 - 258^2$ | $6^2 + 15^2 + 16^2$ $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $7^2 + 12^2 + 18^2$ | $6^2 + 9^2 + 20^2$ | $29^2 - 18^2$ |
| 518 | 1 000 000 110 201012 | $2 \cdot 7 \cdot 37$ $2^5 + 3^5 + 3^5$ | $2^2 + 15^2 + 17^2$ $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $5^2 + 13^2 + 18^2$ | $6^2 + 11^2 + 19^2$ | $3^2 + 5^2 + 22^2$ |
| 519 | 1 000 000 111 201020 | $3 \cdot 173$ | $88^2 - 85^2$ | $260^2 - 259^2$ | $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 520 | 1 000 001 000 201021 | $2^3 \cdot 5 \cdot 13$ $67^2 - 63^2$ | $14^2 + 18^2$ $131^2 - 129^2$ | $6^2 + 22^2$ $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $2^3 + 8^3$ | $23^2 - 3^2$ $31^2 - 21^2$ |
| 521 | 1 000 001 001 201022 | prime | $11^2 + 20^2$ $6^2 + 14^2 + 17^2$ $1^2 + 6^2 + 22^2$ | $10^2 + 14^2 + 15^2$ $1^2 + 14^2 + 18^2$ $1^3 + 2^3 + 8^3$ | $11^2 + 12^2 + 16^2$ $4^2 + 12^2 + 19^2$ $261^2 - 260^2$ | $3^2 + 16^2 + 16^2$ $4^2 + 8^2 + 21^2$ $4 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 522 | 1 000 001 010 201100 | $2 \cdot 3^2 \cdot 29$ | $9^2 + 21^2$ | $8^2 + 13^2 + 17^2$ | $1^2 + 11^2 + 20^2$ | $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ |
| 523 | 1 000 001 011 201101 | prime | $3^2 + 15^2 + 17^2$ $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $9^2 + 9^2 + 19^2$ | $1^2 + 9^2 + 21^2$ | $262^2 - 261^2$ |
| 524 | 1 000 001 100 201102 | $2^2 \cdot 131$ $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $10^2 + 10^2 + 18^2$ | $2^2 + 14^2 + 18^2$ | $2^2 + 6^2 + 22^2$ | $132^2 - 130^2$ |
| 525 | 1 000 001 101 201110 | $3 \cdot 5^2 \cdot 7$ $4^2 + 5^2 + 22^2$ $263^2 - 262^2$ | $10^2 + 13^2 + 16^2$ $23^2 - 2^2$ $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $8^2 + 10^2 + 19^2$ $25^2 - 10^2$ $41^2 - 34^2$ | $5^2 + 10^2 + 20^2$ $55^2 - 50^2$ $89^2 - 86^2$ | $2^2 + 11^2 + 20^2$ $55^2 - 50^2$ $89^2 - 86^2$ |
| 526 | 1 000 001 110 201111 | $2 \cdot 263$ $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $9^2 + 11^2 + 18^2$ | $6^2 + 7^2 + 21^2$ | $2^2 + 9^2 + 21^2$ | |
| 527 | 1 000 001 111 201112 | $17 \cdot 31$ | $24^2 - 7^2$ | $264^2 - 263^2$ | $4 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 528 | 1 000 010 000 201120 | $2^4 \cdot 3 \cdot 11$ $2^4 + 4^4 + 4^4$ $133^2 - 131^2$ | $\frac{3^2}{n}$ $23^2 - 1^2$ $(\frac{33}{2})$ | $4^2 + 16^2 + 16^2$ $28^2 - 16^2$ $4 \cdot 5! + 2 \cdot 4!$ | $8^2 + 8^2 + 20^2$ $37^2 - 29^2$ $47^2 - 41^2$ | $2^3 + 2^3 + 8^3$ $68^2 - 64^2$ |
| 529 | 1 000 010 001 201121 | 23^2 $4 \cdot 5! + 2 \cdot 4! + 1!$ | $6^2 + 13^2 + 18^2$ | $3^2 + 14^2 + 18^2$ | $3^2 + 6^2 + 22^2$ | $265^2 - 264^2$ |
| 530 | 1 000 010 010 201122 | $2 \cdot 5 \cdot 53$ $5^2 + 12^2 + 19^2$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 2!$ | $13^2 + 19^2$ $7^2 + 9^2 + 20^2$ | $1^2 + 23^2$ | $7^2 + 15^2 + 16^2$ $3^2 + 11^2 + 20^2$ | $4^2 + 15^2 + 17^2$ $5^2 + 8^2 + 21^2$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------------------|---|---|---|--|---|
| 531 | 1 000 010 011 201200 | $3^2 \cdot 59$ $3^2 + 9^2 + 21^2$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ | $9^2 + 15^2 + 15^2$ $1^2 + 1^2 + 23^2$ | $11^2 + 11^2 + 17^2$ $34^2 - 25^2$ | $7^2 + 11^2 + 19^2$ $90^2 - 87^2$ | $1^2 + 13^2 + 19^2$ $266^2 - 265^2$ |
| 532 | 1 000 010 100 201201 | $2^2 \cdot 7 \cdot 19$ $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 2!$ | $8^2 + 12^2 + 18^2$ | $4^3 + 5^3 + 7^3$ | $26^2 - 12^2$ | $134^2 - 132^2$ |
| 533 | 1 000 010 101 201202 | $13 \cdot 41$ $267^2 - 266^2$ | $7^2 + 22^2$ $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 2! + 1!$ | $2^2 + 23^2$ | $9^2 + 14^2 + 16^2$ | $10^2 + 12^2 + 17^2$ $27^2 - 14^2$ |
| 534 | 1 000 010 110 201210 | $2 \cdot 3 \cdot 89$ $1^2 + 7^2 + 22^2$ | $13^2 + 13^2 + 14^2$ $1^2 + 2^2 + 23^2$ | $7^2 + 14^2 + 17^2$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 3!$ | $2^2 + 13^2 + 19^2$ | $5^2 + 5^2 + 22^2$ |
| 535 | 1 000 010 111 201211 | $5 \cdot 107$ | $56^2 - 51^2$ | $268^2 - 267^2$ | $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 536 | 1 000 011 000 201212 | $2^3 \cdot 67$ $69^2 - 65^2$ | $12^2 + 14^2 + 14^2$ $135^2 - 133^2$ | $4^2 + 14^2 + 18^2$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $6^2 + 10^2 + 20^2$ | $4^2 + 6^2 + 22^2$ |
| 537 | 1 000 011 001 201220 | $3 \cdot 179$ $91^2 - 88^2$ | $5^2 + 16^2 + 16^2$ $269^2 - 268^2$ | $4^2 + 11^2 + 20^2$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | $2^2 + 7^2 + 22^2$ | $2^2 + 2^2 + 23^2$ |
| 538 | 1 000 011 010 201221 | $2 \cdot 269$ $4 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $3^2 + 23^2$ | $12^2 + 13^2 + 15^2$ | $4^2 + 9^2 + 21^2$ | |
| 539 | 1 000 011 011 201222 | $7^2 \cdot 11$ $1^2 + 3^2 + 23^2$ | $9^2 + 13^2 + 17^2$ $3^3 + 8^3$ | $5^2 + 15^2 + 17^2$ $30^2 - 19^2$ | $3^2 + 13^2 + 19^2$ $42^2 - 35^2$ | $7^2 + 7^2 + 21^2$ $270^2 - 269^2$ |
| 540 | 1 000 011 100 202000 | $2^2 \cdot 3^3 \cdot 5$ $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 3!$ | $1^3 + 3^3 + 8^3$ | $24^2 - 6^2$ | $32^2 - 22^2$ | $48^2 - 42^2$ $136^2 - 134^2$ |
| 541 | 1 000 011 101 202001 | prime | $10^2 + 21^2$ | $6^2 + 12^2 + 19^2$ | $6^2 + 8^2 + 21^2$ | $271^2 - 270^2$ |
| 542 | 1 000 011 110 202002 | $2 \cdot 271$ $3^2 + 7^2 + 22^2$ | $11^2 + 14^2 + 15^2$ $2^2 + 3^2 + 23^2$ | $7^2 + 13^2 + 18^2$ $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $9^2 + 10^2 + 19^2$ | $1^2 + 10^2 + 21^2$ |
| 543 | 1 000 011 111 202010 | $3 \cdot 181$ | $92^2 - 89^2$ | $272^2 - 271^2$ | $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 544 | 1 000 100 000 202011 | $2^5 \cdot 17$ $137^2 - 135^2$ | $12^2 + 20^2$ $5^4 - 3^4$ | $12^2 + 12^2 + 16^2$ $4 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $25^2 - 9^2$ | $38^2 - 30^2$ $70^2 - 66^2$ |
| 545 | 1 000 100 001 202012 | $5 \cdot 109$ $5^2 + 14^2 + 18^2$ | $16^2 + 17^2$ $8^2 + 9^2 + 20^2$ | $4^2 + 23^2$ | $8^2 + 15^2 + 16^2$ $1^2 + 12^2 + 20^2$ | $10^2 + 11^2 + 18^2$ $2^2 + 10^2 + 21^2$ |
| 546 | 1 000 100 010 202020 | $2 \cdot 3 \cdot 7 \cdot 13$ $5^2 + 11^2 + 20^2$ | $11^2 + 13^2 + 16^2$ $1^2 + 4^2 + 23^2$ | $1^2 + 16^2 + 17^2$ $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ | $8^2 + 11^2 + 19^2$ $s_9^{(7)}$ | $4^2 + 13^2 + 19^2$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|------------------------|---|---|--|---|
| 547 | 1 000 100 011 | prime | $5^2 + 9^2 + 21^2$ | $3^2 + 3^2 + 23^2$ | $2^3 + 3^3 + 8^3$ | $274^2 - 273^2$ |
| | 202021 | | $14^3 - 13^3$ | $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ | | |
| 548 | 1 000 100 100 | $2^2 \cdot 137$ | $8^2 + 22^2$ | $6^2 + 16^2 + 16^2$ | $2^2 + 12^2 + 20^2$ | $138^2 - 136^2$ |
| | 202102 | | $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | | |
| 549 | 1 000 100 101 | $3^2 \cdot 61$ | $15^2 + 18^2$ | $8^2 + 14^2 + 17^2$ | $2^2 + 16^2 + 17^2$ | $9^2 + 12^2 + 18^2$ |
| | 202100 | | $7^2 + 10^2 + 20^2$ | $4^2 + 7^2 + 22^2$ | $1^2 + 8^2 + 22^2$ | $2^2 + 4^2 + 23^2$ |
| | | | $93^2 - 90^2$ | $275^2 - 274^2$ | $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $35^2 - 26^2$ |
| 550 | 1 000 100 110 | $2 \cdot 5^2 \cdot 11$ | $10^2 + 15^2 + 15^2$ | $6^2 + 15^2 + 17^2$ | $1^2 + 15^2 + 18^2$ | $3^2 + 10^2 + 21^2$ |
| | 202101 | | $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | | | |
| 551 | 1 000 100 111 | 19·29 | $24^2 - 5^2$ | $276^2 - 275^2$ | $4 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| | 202102 | | | | | |
| 552 | 1 000 101 000 | $2^3 \cdot 3 \cdot 23$ | $10^2 + 14^2 + 16^2$ | $2^2 + 8^2 + 22^2$ | $29^2 - 17^2$ | $49^2 - 43^2$ |
| | 202110 | | $71^2 - 67^2$ | $139^2 - 137^2$ | $4 \cdot 5! + 3 \cdot 4!$ | |
| 553 | 1 000 101 001 | 7·79 | $2^2 + 15^2 + 18^2$ | $3^2 + 12^2 + 20^2$ | $43^2 - 36^2$ | $277^2 - 276^2$ |
| | 202111 | | $4 \cdot 5! + 3 \cdot 4! + 1!$ | | | |
| 554 | 1 000 101 010 | $2 \cdot 277$ | $5^2 + 23^2$ | $11^2 + 12^2 + 17^2$ | $3^2 + 16^2 + 17^2$ | $7^2 + 12^2 + 19^2$ |
| | 202112 | | $7^2 + 8^2 + 21^2$ | $3^2 + 4^2 + 23^2$ | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ | |
| 555 | 1 000 101 011 | $3 \cdot 5 \cdot 37$ | $5^2 + 13^2 + 19^2$ | $1^2 + 5^2 + 23^2$ | $26^2 - 11^2$ | $58^2 - 53^2$ |
| | 202120 | | $94^2 - 91^2$ | $278^2 - 277^2$ | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ | |
| 556 | 1 000 101 100 | $2^2 \cdot 139$ | $6^2 + 14^2 + 18^2$ | $6^2 + 6^2 + 22^2$ | $140^2 - 138^2$ | $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ |
| | 202121 | | | | | |
| 557 | 1 000 101 101 | prime | $14^2 + 19^2$ | $8^2 + 13^2 + 18^2$ | $6^2 + 11^2 + 20^2$ | $4^2 + 10^2 + 21^2$ |
| | 202122 | | $3^2 + 8^2 + 22^2$ | $5^3 + 6^3 + 6^3$ | $279^2 - 278^2$ | $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ |
| 558 | 1 000 101 110 | $2 \cdot 3^2 \cdot 31$ | $10^2 + 13^2 + 17^2$ | $3^2 + 15^2 + 18^2$ | $1^2 + 14^2 + 19^2$ | $6^2 + 9^2 + 21^2$ |
| | 202200 | | $5^2 + 7^2 + 22^2$ | $2^2 + 5^2 + 23^2$ | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 3!$ | |
| 559 | 1 000 101 111 | 13·43 | $6^3 + 7^3$ | $28^2 - 15^2$ | $280^2 - 279^2$ | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ |
| | 202201 | | | | | |
| 560 | 1 000 110 000 | $2^4 \cdot 5 \cdot 7$ | $4^2 + 12^2 + 20^2$ | $1^3 + 6^3 + 7^3$ | $24^2 - 4^2$ | $27^2 - 13^2$ |
| | 202202 | | $39^2 - 31^2$ | $72^2 - 68^2$ | $141^2 - 139^2$ | $(\frac{16}{3})$ |
| | | | | | | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 561 | 1 000 110 001 | $3 \cdot 11 \cdot 17$ | $\sum_{n=1}^{33} n$ | $13^2 + 14^2 + 14^2$ | $7^2 + 16^2 + 16^2$ | $4^2 + 16^2 + 17^2$ |
| | 202210 | | $10^2 + 10^2 + 19^2$ | $2^2 + 14^2 + 19^2$ | $4^2 + 4^2 + 23^2$ | $25^2 - 8^2$ |
| | | | $95^2 - 92^2$ | $281^2 - 280^2$ | $(\frac{34}{2})$ | $31^2 - 20^2$ |
| 562 | 1 000 110 010 | 2·281 | $11^2 + 21^2$ | $9^2 + 15^2 + 16^2$ | $9^2 + 9^2 + 20^2$ | |
| | 202211 | | $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | | | |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|---|
| 563 | 1 000 110 011 202212 | prime $13^2 + 13^2 + 15^2$ $7^2 + 15^2 + 17^2$ $9^2 + 11^2 + 19^2$ $1^2 + 11^2 + 21^2$ $3^2 + 5^2 + 23^2$ $282^2 - 281^2$ $4 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 564 | 1 000 110 100 202220 | $2^2 \cdot 3 \cdot 47$ $8^2 + 10^2 + 20^2$ $4^2 + 8^2 + 22^2$ $50^2 - 44^2$ $142^2 - 140^2$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ |
| 565 | 1 000 110 101 202221 | $5 \cdot 113$ $9^2 + 22^2$ $6^2 + 23^2$ $12^2 + 14^2 + 15^2$ $4^2 + 15^2 + 18^2$ $59^2 - 54^2$ $283^2 - 282^2$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ |
| 566 | 1 000 110 110 202222 | $2 \cdot 283$ $9^2 + 14^2 + 17^2$ $11^2 + 11^2 + 18^2$ $6^2 + 13^2 + 19^2$ $3^2 + 14^2 + 19^2$ $5^2 + 10^2 + 21^2$ $2^2 + 11^2 + 21^2$ $1^2 + 9^2 + 22^2$ $1^2 + 6^2 + 23^2$ $3^3 + 3^3 + 8^3$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 567 | 1 000 110 111 210000 | $3^4 \cdot 7$ $2^3 + 6^3 + 7^3$ $24^2 - 3^2$ $36^2 - 27^2$ $44^2 - 37^2$ $96^2 - 93^2$ $284^2 - 283^2$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 568 | 1 000 111 000 210001 | $2^3 \cdot 71$ $10^2 + 12^2 + 18^2$ $73^2 - 69^2$ $143^2 - 141^2$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 569 | 1 000 111 001 210002 | prime $13^2 + 20^2$ $12^2 + 13^2 + 16^2$ $7^2 + 14^2 + 18^2$ $8^2 + 12^2 + 19^2$ $5^2 + 12^2 + 20^2$ $8^2 + 8^2 + 21^2$ $6^2 + 7^2 + 22^2$ $2^2 + 9^2 + 22^2$ $2^2 + 6^2 + 23^2$ $285^2 - 284^2$ $4 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 570 | 1 000 111 010 210010 | $2 \cdot 3 \cdot 5 \cdot 19$ $5^2 + 16^2 + 17^2$ $7^2 + 11^2 + 20^2$ $1^2 + 13^2 + 20^2$ $4^2 + 5^2 + 23^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3!$ |
| 571 | 1 000 111 011 210011 | prime $11^2 + 15^2 + 15^2$ $7^2 + 9^2 + 21^2$ $3^2 + 11^2 + 21^2$ $286^2 - 285^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1!$ |
| 572 | 1 000 111 100 210012 | $2^2 \cdot 11 \cdot 13$ $24^2 - 2^2$ $144^2 - 142^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 573 | 1 000 111 101 210020 | $3 \cdot 191$ $11^2 + 14^2 + 16^2$ $4^2 + 14^2 + 19^2$ $2^2 + 13^2 + 20^2$ $5^2 + 8^2 + 22^2$ $97^2 - 94^2$ $287^2 - 286^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 574 | 1 000 111 110 210021 | $2 \cdot 7 \cdot 41$ $9^2 + 13^2 + 18^2$ $5^2 + 15^2 + 18^2$ $3^2 + 9^2 + 22^2$ $3^2 + 6^2 + 23^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ r(27) |
| 575 | 1 000 111 111 210022 | $5^2 \cdot 23$ $24^2 - 1^2$ $60^2 - 55^2$ $288^2 - 287^2$ $4 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 576 | 1 001 000 000 210100 | $2^6 \cdot 3^2$ 24^2 $8^2 + 16^2 + 16^2$ $4^3 + 8^3$ $25^2 - 7^2$ $26^2 - 10^2$ $30^2 - 18^2$ $40^2 - 32^2$ $51^2 - 45^2$ $74^2 - 70^2$ $145^2 - 143^2$ $4 \cdot 5! + 4 \cdot 4!$ |
| 577 | 1 001 000 001 210101 | prime $1^2 + 24^2$ $12^2 + 12^2 + 17^2$ $6^2 + 10^2 + 21^2$ $1^3 + 4^3 + 8^3$ $289^2 - 288^2$ $4 \cdot 5! + 4 \cdot 4! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------------------|---|---|---|---|--|
| 578 | 1 001 000 010 210102 | $2 \cdot 17^2$ $4^2 + 11^2 + 21^2$ | $17^2 + 17^2$ $1^2 + 1^2 + 24^2$ | $7^2 + 23^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ | $8^2 + 15^2 + 17^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ | $3^2 + 13^2 + 20^2$ |
| 579 | 1 001 000 011 210110 | $3 \cdot 193$ $1^2 + 7^2 + 23^2$ | $11^2 + 13^2 + 17^2$ $98^2 - 95^2$ | $1^2 + 17^2 + 17^2$ $290^2 - 289^2$ | $7^2 + 13^2 + 19^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 2! + 1!$ | $5^2 + 5^2 + 23^2$ |
| 580 | 1 001 000 100 210111 | $2^2 \cdot 5 \cdot 29$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 2!$ | $16^2 + 18^2$ $2^2 + 24^2$ | $2^2 + 24^2$ $6^2 + 12^2 + 20^2$ | $6^2 + 12^2 + 20^2$ $34^2 - 24^2$ | $146^2 - 144^2$ |
| 581 | 1 001 000 101 210112 | $7 \cdot 83$ $4^2 + 9^2 + 22^2$ | $10^2 + 15^2 + 16^2$ $4^2 + 6^2 + 23^2$ | $6^2 + 16^2 + 17^2$ $1^2 + 2^2 + 24^2$ | $1^2 + 16^2 + 18^2$ $45^2 - 38^2$ | $9^2 + 10^2 + 20^2$ $291^2 - 290^2$ |
| | | $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 2! + 1!$ | | | | |
| 582 | 1 001 000 110 210120 | $2 \cdot 3 \cdot 97$ $2^2 + 7^2 + 23^2$ | $2^2 + 17^2 + 17^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ | $10^2 + 11^2 + 19^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ | $5^2 + 14^2 + 19^2$ $147^2 - 145^2$ | $7^2 + 7^2 + 22^2$ |
| 583 | 1 001 000 111 210121 | $11 \cdot 53$ | $32^2 - 21^2$ | $292^2 - 291^2$ | $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 584 | 1 001 001 000 210122 | $2^3 \cdot 73$ $2^2 + 2^2 + 24^2$ | $10^2 + 22^2$ $2^3 + 4^3 + 8^3$ | $8^2 + 14^2 + 18^2$ $75^2 - 71^2$ | $2^2 + 16^2 + 18^2$ $147^2 - 145^2$ | $6^2 + 8^2 + 22^2$ |
| | | $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | | | | |
| 585 | 1 001 001 001 210200 | $3^2 \cdot 5 \cdot 13$ $8^2 + 11^2 + 20^2$ | $12^2 + 21^2$ $4^2 + 13^2 + 20^2$ | $3^2 + 24^2$ $1^2 + 10^2 + 22^2$ | $10^2 + 14^2 + 17^2$ $37^2 - 28^2$ | $6^2 + 15^2 + 18^2$ $61^2 - 56^2$ |
| | | $37^2 - 28^2$ | $61^2 - 56^2$ | $99^2 - 96^2$ | $27^2 - 12^2$ | $29^2 - 16^2$ |
| | | $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1 \cdot 1!$ | | | | $q(35)$ |
| 586 | 1 001 001 010 210201 | $2 \cdot 293$ $1^2 + 3^2 + 24^2$ | $15^2 + 19^2$ $3^3 + 6^3 + 7^3$ | $9^2 + 12^2 + 19^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $8^2 + 9^2 + 21^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | $1^2 + 12^2 + 21^2$ |
| 587 | 1 001 001 011 210202 | prime | $3^2 + 17^2 + 17^2$ $294^2 - 293^2$ | $1^2 + 15^2 + 19^2$ $4 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $5^2 + 11^2 + 21^2$ | $3^2 + 7^2 + 23^2$ |
| 588 | 1 001 001 100 210210 | $2^2 \cdot 3 \cdot 7^2$ $148^2 - 146^2$ | $14^2 + 14^2 + 14^2$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ | $2^2 + 10^2 + 22^2$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ | $28^2 - 14^2$ | $52^2 - 46^2$ |
| 589 | 1 001 001 101 210211 | $19 \cdot 31$ $25^2 - 6^2$ | $11^2 + 12^2 + 18^2$ $295^2 - 294^2$ | $3^2 + 16^2 + 18^2$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1!$ | $2^2 + 12^2 + 21^2$ | $2^2 + 3^2 + 24^2$ |
| 590 | 1 001 001 110 210212 | $2 \cdot 5 \cdot 59$ $5^2 + 6^2 + 23^2$ | $13^2 + 14^2 + 15^2$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $2^2 + 15^2 + 19^2$ | $7^2 + 10^2 + 21^2$ | $5^2 + 9^2 + 22^2$ |
| 591 | 1 001 001 111 210220 | $3 \cdot 197$ | $100^2 - 97^2$ | $296^2 - 295^2$ | $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 592 | 1 001 010 000 210221 | $2^4 \cdot 37$ $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $4^2 + 24^2$ $41^2 - 33^2$ | $76^2 - 72^2$ | $149^2 - 147^2$ | |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|-------|-------------------------|---|--|---|
| 593 | 1 001 010 001 | prime | $8^2 + 23^2$ | $9^2 + 16^2 + 16^2$ | $10^2 + 13^2 + 18^2$ | $6^2 + 14^2 + 19^2$ |
| | 210222 | | $7^2 + 12^2 + 20^2$ | $3^2 + 10^2 + 22^2$ | $1^2 + 4^2 + 24^2$ | $5^3 + 5^3 + 7^3$ |
| 594 | 1 001 010 010 | | $3^4 + 4^4 + 4^4$ | $297^2 - 296^2$ | $4 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | |
| | 211000 | | $2 \cdot 3^3 \cdot 11$ | $12^2 + 15^2 + 15^2$ | $13^2 + 13^2 + 16^2$ | $7^2 + 16^2 + 17^2$ |
| 595 | 1 001 010 011 | | $8^2 + 13^2 + 19^2$ | $5^2 + 13^2 + 20^2$ | $3^2 + 12^2 + 21^2$ | $4^2 + 7^2 + 23^2$ |
| | 211001 | | $1^2 + 8^2 + 23^2$ | $3^2 + 3^2 + 24^2$ | $4 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | |
| 596 | 1 001 010 100 | | $5 \cdot 7 \cdot 17$ | $\frac{3^h}{2} n$ | $9^2 + 15^2 + 17^2$ | $3^2 + 15^2 + 19^2$ |
| | 211002 | | $62^2 - 57^2$ | $298^2 - 297^2$ | $(\frac{35}{2})$ | $26^2 - 9^2$ |
| 597 | 1 001 010 101 | | $150^2 - 148^2$ | $4 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | $46^2 - 39^2$ |
| | 211010 | | $3 \cdot 199$ | $1^2 + 14^2 + 20^2$ | $7^2 + 8^2 + 22^2$ | $2^2 + 8^2 + 23^2$ |
| 598 | 1 001 010 110 | | $2 \cdot 13 \cdot 23$ | $7^2 + 15^2 + 18^2$ | $6^2 + 11^2 + 21^2$ | $4 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| | 211011 | | | | | |
| 599 | 1 001 010 111 | prime | $300^2 - 299^2$ | | $4 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| | 211012 | | | | | |
| 600 | 1 001 011 000 | | $2^3 \cdot 3 \cdot 5^2$ | $10^2 + 10^2 + 20^2$ | $2^2 + 14^2 + 20^2$ | $4^2 + 10^2 + 22^2$ |
| | 211020 | | $31^2 - 19^2$ | $35^2 - 25^2$ | $53^2 - 47^2$ | $77^2 - 73^2$ |
| 601 | 1 001 011 001 | prime | $5^2 + 24^2$ | $9^2 + 14^2 + 18^2$ | $4^2 + 12^2 + 21^2$ | $6^2 + 9^2 + 22^2$ |
| | 211021 | | $6^2 + 6^2 + 23^2$ | $3^2 + 4^2 + 24^2$ | $301^2 - 300^2$ | $5 \cdot 5! + 1!$ |
| 602 | 1 001 011 010 | | $2 \cdot 7 \cdot 43$ | $11^2 + 15^2 + 16^2$ | $12^2 + 13^2 + 17^2$ | $4^2 + 15^2 + 19^2$ |
| | 211022 | | $3^2 + 8^2 + 23^2$ | $1^2 + 5^2 + 24^2$ | $11^3 - 9^3$ | $9^2 + 11^2 + 20^2$ |
| 603 | 1 001 011 011 | | $3^2 \cdot 67$ | $5^2 + 17^2 + 17^2$ | $11^2 + 11^2 + 19^2$ | $9^2 + 9^2 + 21^2$ |
| | 211100 | | $3^3 + 4^3 + 8^3$ | $38^2 - 29^2$ | $102^2 - 99^2$ | $5^2 + 7^2 + 23^2$ |
| 604 | 1 001 011 100 | | $2^2 \cdot 151$ | $152^2 - 150^2$ | $9^3 - 5^3$ | $5 \cdot 5! + 2 \cdot 2!$ |
| | 211101 | | | | | |
| 605 | 1 001 011 101 | | $5 \cdot 11^2$ | $11^2 + 22^2$ | $5^2 + 16^2 + 18^2$ | $10^2 + 12^2 + 19^2$ |
| | 211102 | | $3^2 + 14^2 + 20^2$ | $8^2 + 10^2 + 21^2$ | $2^2 + 5^2 + 24^2$ | $33^2 - 22^2$ |
| | | | $303^2 - 302^2$ | | $5 \cdot 5! + 2 \cdot 2! + 1!$ | $63^2 - 58^2$ |
| 606 | 1 001 011 110 | | $2 \cdot 3 \cdot 101$ | $11^2 + 14^2 + 17^2$ | $7^2 + 14^2 + 19^2$ | $1^2 + 11^2 + 22^2$ |
| | 211110 | | | | | $5 \cdot 5! + 1 \cdot 3!$ |
| 607 | 1 001 011 111 | prime | $304^2 - 303^2$ | | $5 \cdot 5! + 1 \cdot 3! + 1!$ | |
| | 211111 | | | | | |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|--------------------------|---|---|--|---|
| 608 | 1 001 100 000 | $2^5 \cdot 19$ | $8^2 + 12^2 + 20^2$ | $4^2 + 4^2 + 24^2$ | $27^2 - 11^2$ | $42^2 - 34^2$ |
| | 211112 | $78^2 - 74^2$ | $153^2 - 151^2$ | $5 \cdot 5! + 1 \cdot 3! + 1 \cdot 2!$ | | |
| 609 | 1 001 100 001 | $3 \cdot 7 \cdot 29$ | $8^2 + 16^2 + 17^2$ | $5^2 + 10^2 + 22^2$ | $2^2 + 11^2 + 22^2$ | $4^2 + 8^2 + 23^2$ |
| | 211120 | $25^2 - 4^2$ | $47^2 - 40^2$ | $103^2 - 100^2$ | $305^2 - 304^2$ | $5^4 - 2^4$ |
| | | | $5 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | |
| 610 | 1 001 100 010 | $2 \cdot 5 \cdot 61$ | $13^2 + 21^2$ | $9^2 + 23^2$ | $5^2 + 12^2 + 21^2$ | $3^2 + 5^2 + 24^2$ |
| | 211121 | | | $5 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ | | |
| 611 | 1 001 100 011 | $13 \cdot 47$ | $9^2 + 13^2 + 19^2$ | $5^2 + 15^2 + 19^2$ | $7^2 + 11^2 + 21^2$ | $1^2 + 13^2 + 21^2$ |
| | 211122 | | $1^2 + 9^2 + 23^2$ | $30^2 - 17^2$ | $306^2 - 305^2$ | $5 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 612 | 1 001 100 100 | $2^2 \cdot 3^2 \cdot 17$ | $6^2 + 24^2$ | $10^2 + 16^2 + 16^2$ | $12^2 + 12^2 + 18^2$ | $4^2 + 14^2 + 20^2$ |
| | 211200 | | $8^2 + 8^2 + 22^2$ | $26^2 - 8^2$ | $54^2 - 48^2$ | $154^2 - 152^2$ |
| | | | | | | $5 \cdot 5! + 2 \cdot 3!$ |
| 613 | 1 001 100 101 | prime | $17^2 + 18^2$ | $8^2 + 15^2 + 18^2$ | $1^2 + 6^2 + 24^2$ | $307^2 - 306^2$ |
| | 211201 | | | $5 \cdot 5! + 2 \cdot 3! + 1!$ | | |
| 614 | 1 001 100 110 | $2 \cdot 307$ | $10^2 + 15^2 + 17^2$ | $6^2 + 17^2 + 17^2$ | $11^2 + 13^2 + 18^2$ | $1^2 + 17^2 + 18^2$ |
| | 211202 | | $2^2 + 13^2 + 21^2$ | $7^2 + 9^2 + 22^2$ | $3^2 + 11^2 + 22^2$ | $6^2 + 7^2 + 23^2$ |
| | | | $2^2 + 9^2 + 23^2$ | $5 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ | | |
| 615 | 1 001 100 111 | $3 \cdot 5 \cdot 41$ | $28^2 - 13^2$ | $64^2 - 59^2$ | $104^2 - 101^2$ | $308^2 - 307^2$ |
| | 211210 | | | $5 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 616 | 1 001 101 000 | $2^3 \cdot 7 \cdot 11$ | $6^2 + 16^2 + 18^2$ | $2^2 + 6^2 + 24^2$ | $25^2 - 3^2$ | $29^2 - 15^2$ |
| | 211211 | | $79^2 - 75^2$ | $155^2 - 153^2$ | $5 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ | |
| 617 | 1 001 101 001 | prime | $6^2 + 19^2$ | $14^2 + 14^2 + 15^2$ | $2^2 + 17^2 + 18^2$ | $4^2 + 5^2 + 24^2$ |
| | 211212 | | $309^2 - 308^2$ | $5 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 618 | 1 001 101 010 | $2 \cdot 3 \cdot 103$ | $1^2 + 16^2 + 19^2$ | $7^2 + 13^2 + 20^2$ | $5^2 + 8^2 + 23^2$ | $5 \cdot 5! + 3 \cdot 3!$ |
| | 211220 | | | | | |
| 619 | 1 001 101 011 | prime | $13^2 + 15^2 + 15^2$ | $3^2 + 13^2 + 21^2$ | $3^2 + 9^2 + 23^2$ | $310^2 - 309^2$ |
| | 211221 | | | $5 \cdot 5! + 3 \cdot 3! + 1!$ | | |
| 620 | 1 001 101 100 | $2^2 \cdot 5 \cdot 31$ | $10^2 + 14^2 + 18^2$ | $6^2 + 10^2 + 22^2$ | $36^2 - 26^2$ | $156^2 - 154^2$ |
| | 211222 | | | $5 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| 621 | 1 001 101 101 | $3^3 \cdot 23$ | $13^2 + 14^2 + 16^2$ | $8^2 + 14^2 + 19^2$ | $2^2 + 16^2 + 19^2$ | $10^2 + 11^2 + 20^2$ |
| | 212000 | | $5^2 + 14^2 + 20^2$ | $6^2 + 12^2 + 21^2$ | $4^2 + 11^2 + 22^2$ | $3^2 + 6^2 + 24^2$ |
| | | | $39^2 - 30^2$ | $105^2 - 102^2$ | $311^2 - 310^2$ | $5 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 622 | 1 001 101 110 | $2 \cdot 311$ | $3^2 + 17^2 + 18^2$ | $6^2 + 15^2 + 19^2$ | $9^2 + 10^2 + 21^2$ | $5 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ |
| | 212001 | | | | | |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|---|
| 623 | 1 001 101 111 212002 | 7.89 $4^3 + 6^3 + 7^3$ $48^2 - 41^2$ $312^2 - 311^2$ $5 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 624 | 1 001 110 000 212010 | $2^4 \cdot 3 \cdot 13$ $25^2 - 1^2$ $32^2 - 20^2$ $43^2 - 35^2$ $55^2 - 49^2$ $80^2 - 76^2$ $157^2 - 155^2$ $5^4 - 1^4$ $5 \cdot 5! + 1 \cdot 4!$ |
| 625 | 1 001 110 001 212011 | 5^4 25^2 $15^2 + 20^2$ $7^2 + 24^2$ $12^2 + 15^2 + 16^2$ $9^2 + 12^2 + 20^2$ $65^2 - 60^2$ $313^2 - 312^2$ $5 \cdot 5! + 1 \cdot 4! + 1!$ automorphic |
| 626 | 1 001 110 010 212012 | $2 \cdot 313$ $1^2 + 25^2$ $9^2 + 16^2 + 17^2$ $11^2 + 12^2 + 19^2$ $3^2 + 16^2 + 19^2$ $1^2 + 15^2 + 20^2$ $8^2 + 11^2 + 21^2$ $4^2 + 13^2 + 21^2$ $4^2 + 9^2 + 23^2$ $5^2 + 5^2 + 24^2$ $1^2 + 7^2 + 24^2$ $1^4 + 5^4$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ |
| 627 | 1 001 110 011 212020 | $3 \cdot 11 \cdot 19$ $13^2 + 13^2 + 17^2$ $7^2 + 17^2 + 17^2$ $7^2 + 7^2 + 23^2$ $1^2 + 1^2 + 25^2$ $1^4 + 1^4 + 5^4$ $26^2 - 7^2$ $34^2 - 23^2$ $106^2 - 103^2$ $314^2 - 313^2$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ p(20) |
| 628 | 1 001 110 100 212021 | $2^2 \cdot 157$ $12^2 + 22^2$ $4^2 + 6^2 + 24^2$ $158^2 - 156^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ |
| 629 | 1 001 110 101 212022 | $17 \cdot 37$ $10^2 + 23^2$ $2^2 + 25^2$ $12^2 + 14^2 + 17^2$ $7^2 + 16^2 + 18^2$ $4^2 + 17^2 + 18^2$ $2^2 + 15^2 + 20^2$ $8^2 + 9^2 + 22^2$ $1^2 + 12^2 + 22^2$ $6^2 + 8^2 + 23^2$ $2^2 + 7^2 + 24^2$ $27^2 - 10^2$ $315^2 - 314^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ |
| 630 | 1 001 110 110 212100 | $2 \cdot 3^2 \cdot 5 \cdot 7$ $\frac{35}{1} n$ $9^2 + 15^2 + 18^2$ $10^2 + 13^2 + 19^2$ $5^2 + 11^2 + 22^2$ $1^2 + 10^2 + 23^2$ $1^2 + 2^2 + 25^2$ $(\frac{36}{2})$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ |
| 631 | 1 001 110 111 212101 | prime $316^2 - 315^2$ $15^3 - 14^3$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ |
| 632 | 1 001 111 000 212102 | $2^3 \cdot 79$ $6^2 + 14^2 + 20^2$ $2^2 + 12^2 + 22^2$ $81^2 - 77^2$ $159^2 - 157^2$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 633 | 1 001 111 001 212110 | $3 \cdot 211$ $11^2 + 16^2 + 16^2$ $4^2 + 16^2 + 19^2$ $8^2 + 13^2 + 20^2$ $7^2 + 10^2 + 22^2$ $2^2 + 10^2 + 23^2$ $2^2 + 2^2 + 25^2$ $107^2 - 104^2$ $317^2 - 316^2$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 634 | 1 001 111 010 212111 | $2 \cdot 317$ $3^2 + 25^2$ $3^2 + 15^2 + 20^2$ $7^2 + 12^2 + 21^2$ $3^2 + 7^2 + 24^2$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 635 | 1 001 111 011 212112 | $5 \cdot 127$ $11^2 + 15^2 + 17^2$ $7^2 + 15^2 + 19^2$ $5^2 + 13^2 + 21^2$ $5^2 + 9^2 + 23^2$ $1^2 + 3^2 + 25^2$ $66^2 - 61^2$ $318^2 - 317^2$ $5 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 636 | 1 001 111 100 212120 | $2^2 \cdot 3 \cdot 53$ $56^2 - 50^2$ $160^2 - 158^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ |
| 637 | 1 001 111 101 212121 | $7^2 \cdot 13$ $14^2 + 21^2$ $12^2 + 13^2 + 18^2$ $3^2 + 12^2 + 22^2$ $5^2 + 6^2 + 24^2$ $5^3 + 8^3$ $31^2 - 18^2$ $49^2 - 42^2$ $319^2 - 318^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|-------------------------|---|---|---|---|--|
| 638 | 1 001 111 110 212122 | $2 \cdot 11 \cdot 29$ $2^2 + 3^2 + 25^2$ | $5^2 + 17^2 + 18^2$ $1^3 + 5^3 + 8^3$ | $9^2 + 14^2 + 19^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $1^2 + 14^2 + 21^2$ | $3^2 + 10^2 + 23^2$ |
| 639 | 1 001 111 111 212200 | $3^2 \cdot 71$ | $40^2 - 31^2$ | $108^2 - 105^2$ | $320^2 - 319^2$ | $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 640 | 1 010 000 000 212201 | $2^7 \cdot 5$ $44^2 - 36^2$ | $8^2 + 24^2$ $82^2 - 78^2$ | $4^3 + 4^3 + 8^3$ $161^2 - 159^2$ | $26^2 - 6^2$ $5 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $28^2 - 12^2$ $37^2 - 27^2$ |
| 641 | 1 010 000 001 212202 | prime | $4^2 + 25^2$ $2^2 + 14^2 + 21^2$ | $11^2 + 14^2 + 18^2$ $6^2 + 11^2 + 22^2$ | $4^2 + 15^2 + 20^2$ $4^2 + 7^2 + 24^2$ | $10^2 + 10^2 + 21^2$ $1^2 + 8^2 + 24^2$ $2^4 + 5^4$ |
| 642 | 1 010 000 010 212210 | $2 \cdot 3 \cdot 107$ | $8^2 + 17^2 + 17^2$ $1^2 + 4^2 + 25^2$ | $5^2 + 16^2 + 19^2$ $1^4 + 2^4 + 5^4$ | $11^2 + 11^2 + 20^2$ $5 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ | $7^2 + 8^2 + 23^2$ |
| 643 | 1 010 000 011 212211 | prime | $9^2 + 11^2 + 21^2$ | $3^2 + 3^2 + 25^2$ | $322^2 - 321^2$ | $5 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ |
| 644 | 1 010 000 100 212212 | $2^2 \cdot 7 \cdot 23$ $30^2 - 16^2$ | $8^2 + 16^2 + 18^2$ $162^2 - 160^2$ | $10^2 + 12^2 + 20^2$ $5 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $4^2 + 12^2 + 22^2$ | $2^2 + 8^2 + 24^2$ |
| 645 | 1 010 000 101 212220 | $3 \cdot 5 \cdot 43$ | $10^2 + 16^2 + 17^2$ $2^3 + 5^3 + 8^3$ | $7^2 + 14^2 + 20^2$ $29^2 - 14^2$ | $4^2 + 10^2 + 23^2$ $67^2 - 62^2$ | $2^2 + 4^2 + 25^2$ $109^2 - 106^2$ $323^2 - 322^2$ |
| 646 | 1 010 000 110 212221 | $2 \cdot 17 \cdot 19$ | $14^2 + 15^2 + 15^2$ $6^2 + 9^2 + 23^2$ | $6^2 + 13^2 + 21^2$ $5 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $3^2 + 14^2 + 21^2$ | $9^2 + 9^2 + 22^2$ |
| 647 | 1 010 000 111 212222 | prime | $324^2 - 323^2$ | $5 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 648 | 1 010 001 000 220000 | $2^3 \cdot 3^4$ | $18^2 + 18^2$ $6^3 + 6^3 + 6^3$ | $14^2 + 14^2 + 16^2$ $27^2 - 9^2$ | $8^2 + 10^2 + 22^2$ $33^2 - 21^2$ | $6^2 + 6^2 + 24^2$ $57^2 - 51^2$ $83^2 - 79^2$ $163^2 - 161^2$ |
| 649 | 1 010 001 001 220001 | $11 \cdot 59$ | $10^2 + 15^2 + 18^2$ $8^2 + 12^2 + 21^2$ | $6^2 + 17^2 + 18^2$ $3^2 + 8^2 + 24^2$ | $1^2 + 18^2 + 18^2$ $35^2 - 24^2$ | $12^2 + 12^2 + 19^2$ $325^2 - 324^2$ $5 \cdot 5! + 2 \cdot 4! + 1!$ |
| 650 | 1 010 001 010 220002 | $2 \cdot 5^2 \cdot 13$ | $17^2 + 19^2$ $9^2 + 13^2 + 20^2$ | $11^2 + 23^2$ $5^2 + 15^2 + 20^2$ | $5^2 + 25^2$ $5^2 + 7^2 + 24^2$ | $13^2 + 15^2 + 16^2$ $3^2 + 4^2 + 25^2$ $\frac{1}{n}^2$ |
| 651 | 1 010 001 011 220010 | $3 \cdot 7 \cdot 31$ | $11^2 + 13^2 + 19^2$ $26^2 - 5^2$ | $1^2 + 17^2 + 19^2$ $50^2 - 43^2$ | $1^2 + 11^2 + 23^2$ $110^2 - 107^2$ | $1^2 + 5^2 + 25^2$ $326^2 - 325^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 2! + 1!$ |
| 652 | 1 010 001 100 220011 | $2^2 \cdot 163$ | $2^2 + 18^2 + 18^2$ | $164^2 - 162^2$ | $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 2!$ | |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|---|
| 653 | 1 010 001 101 220012 | prime $13^2 + 22^2$ $6^2 + 16^2 + 19^2$ $4^2 + 14^2 + 21^2$ $5^2 + 12^2 + 22^2$ $327^2 - 326^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 2! + 1!$ |
| 654 | 1 010 001 110 220020 | $2 \cdot 3 \cdot 109$ $13^2 + 14^2 + 17^2$ $2^2 + 17^2 + 19^2$ $7^2 + 11^2 + 22^2$ $1^2 + 13^2 + 22^2$ $5^2 + 10^2 + 23^2$ $2^2 + 11^2 + 23^2$ $2^2 + 5^2 + 25^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3!$ |
| 655 | 1 010 001 111 220021 | $5 \cdot 131$ $68^2 - 63^2$ $328^2 - 327^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1!$ |
| 656 | 1 010 010 000 220022 | $2^4 \cdot 41$ $16^2 + 20^2$ $12^2 + 16^2 + 16^2$ $4^2 + 8^2 + 24^2$ $45^2 - 37^2$ $84^2 - 80^2$ $165^2 - 163^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 657 | 1 010 010 001 220100 | $3^2 \cdot 73$ $9^2 + 24^2$ $3^2 + 18^2 + 18^2$ $10^2 + 14^2 + 19^2$ $1^2 + 16^2 + 20^2$ $2^2 + 13^2 + 22^2$ $8^2 + 8^2 + 23^2$ $4^2 + 4^2 + 25^2$ $41^2 - 32^2$ $111^2 - 108^2$ $329^2 - 328^2$ $10^3 - 7^3$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 658 | 1 010 010 010 220101 | $2 \cdot 7 \cdot 47$ $12^2 + 15^2 + 17^2$ $1^2 + 9^2 + 24^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 659 | 1 010 010 011 220102 | prime $9^2 + 17^2 + 17^2$ $3^2 + 17^2 + 19^2$ $7^2 + 13^2 + 21^2$ $7^2 + 9^2 + 23^2$ $3^2 + 11^2 + 23^2$ $3^2 + 5^2 + 25^2$ $330^2 - 329^2$ $5 \cdot 5! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 660 | 1 010 010 100 220110 | $2^2 \cdot 3 \cdot 5 \cdot 11$ $8^2 + 14^2 + 20^2$ $2^2 + 16^2 + 20^2$ $26^2 - 4^2$ $38^2 - 28^2$ $58^2 - 52^2$ $166^2 - 164^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3!$ |
| 661 | 1 010 010 101 220111 | prime $6^2 + 25^2$ $9^2 + 16^2 + 18^2$ $6^2 + 15^2 + 20^2$ $6^2 + 7^2 + 24^2$ $2^2 + 9^2 + 24^2$ $331^2 - 330^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1!$ |
| 662 | 1 010 010 110 220112 | $2 \cdot 331$ $13^2 + 13^2 + 18^2$ $7^2 + 17^2 + 18^2$ $10^2 + 11^2 + 21^2$ $5^2 + 14^2 + 21^2$ $3^2 + 13^2 + 22^2$ $1^2 + 6^2 + 25^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 663 | 1 010 010 111 220120 | $3 \cdot 13 \cdot 17$ $28^2 - 11^2$ $32^2 - 19^2$ $112^2 - 109^2$ $332^2 - 331^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 664 | 1 010 011 000 220121 | $2^3 \cdot 83$ $12^2 + 14^2 + 18^2$ $4^2 + 18^2 + 18^2$ $6^2 + 12^2 + 22^2$ $3^3 + 5^3 + 8^3$ $85^2 - 81^2$ $167^2 - 165^2$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 665 | 1 010 011 001 220122 | $5 \cdot 7 \cdot 19$ $11^2 + 12^2 + 20^2$ $3^2 + 16^2 + 20^2$ $9^2 + 10^2 + 22^2$ $6^2 + 10^2 + 23^2$ $5^2 + 8^2 + 24^2$ $2^2 + 6^2 + 25^2$ $27^2 - 8^2$ $51^2 - 44^2$ $69^2 - 64^2$ $333^2 - 332^2$ $9^3 - 4^3$ $3^6 - 2^6$ $5 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 666 | 1 010 011 010 220200 | $2 \cdot 3^2 \cdot 37$ $\sum_{n=1}^{36}$ $15^2 + 21^2$ $11^2 + 16^2 + 17^2$ $7^2 + 16^2 + 19^2$ $4^2 + 17^2 + 19^2$ $9^2 + 12^2 + 21^2$ $4^2 + 11^2 + 23^2$ $3^2 + 9^2 + 24^2$ $4^2 + 5^2 + 25^2$ $(\frac{37}{2})$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ |
| 667 | 1 010 011 011 220201 | $23 \cdot 29$ $9^2 + 15^2 + 19^2$ $1^2 + 15^2 + 21^2$ $26^2 - 3^2$ $334^2 - 333^2$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|--|
| 668 | 1 010 011 100 220202 | $2^2 \cdot 167$ $168^2 - 166^2$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ q(36) |
| 669 | 1 010 011 101 220210 | $3 \cdot 223$ $10^2 + 13^2 + 20^2$ $8^2 + 11^2 + 22^2$ $4^2 + 13^2 + 22^2$ $113^2 - 110^2$ $335^2 - 334^2$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 670 | 1 010 011 110 220211 | $2 \cdot 5 \cdot 67$ $11^2 + 15^2 + 18^2$ $2^2 + 15^2 + 21^2$ $3^2 + 6^2 + 25^2$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 671 | 1 010 011 111 220212 | $11 \cdot 61$ $36^2 - 25^2$ $336^2 - 335^2$ $6^4 - 5^4$ $5 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 672 | 1 010 100 000 220220 | $2^5 \cdot 3 \cdot 7$ $4^2 + 16^2 + 20^2$ $26^2 - 2^2$ $29^2 - 13^2$ $31^2 - 17^2$ $34^2 - 22^2$ $46^2 - 38^2$ $59^2 - 53^2$ $86^2 - 82^2$ $169^2 - 167^2$ $5 \cdot 5! + 3 \cdot 4!$ |
| 673 | 1 010 100 001 220221 | prime $12^2 + 23^2$ $5^2 + 18^2 + 18^2$ $6^2 + 14^2 + 21^2$ $4^2 + 9^2 + 24^2$ $337^2 - 336^2$ $5 \cdot 5! + 3 \cdot 4! + 1!$ |
| 674 | 1 010 100 010 220222 | $2 \cdot 337$ $7^2 + 25^2$ $12^2 + 13^2 + 19^2$ $7^2 + 15^2 + 20^2$ $8^2 + 13^2 + 21^2$ $8^2 + 9^2 + 23^2$ $1^2 + 12^2 + 23^2$ $7^2 + 7^2 + 24^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ |
| 675 | 1 010 100 011 221000 | $3^3 \cdot 5^2$ $15^2 + 15^2 + 15^2$ $5^2 + 17^2 + 19^2$ $3^2 + 15^2 + 21^2$ $5^2 + 11^2 + 23^2$ $5^2 + 5^2 + 25^2$ $1^2 + 7^2 + 25^2$ $26^2 - 1^2$ $30^2 - 15^2$ $42^2 - 33^2$ $70^2 - 65^2$ $114^2 - 111^2$ $338^2 - 337^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ |
| 676 | 1 010 100 100 221001 | $2^2 \cdot 13^2$ 26^2 $10^2 + 24^2$ $6^2 + 8^2 + 24^2$ $170^2 - 168^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ |
| 677 | 1 010 100 101 221002 | prime $1^2 + 26^2$ $14^2 + 15^2 + 16^2$ $8^2 + 17^2 + 18^2$ $9^2 + 14^2 + 20^2$ $7^2 + 12^2 + 22^2$ $2^2 + 12^2 + 23^2$ $1^2 + 10^2 + 24^2$ $4^2 + 6^2 + 25^2$ $339^2 - 338^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ |
| 678 | 1 010 100 110 221010 | $2 \cdot 3 \cdot 113$ $10^2 + 17^2 + 17^2$ $11^2 + 14^2 + 19^2$ $5^2 + 13^2 + 22^2$ $7^2 + 10^2 + 23^2$ $2^2 + 7^2 + 25^2$ $1^2 + 1^2 + 26^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 2!$ |
| 679 | 1 010 100 111 221011 | $7 \cdot 97$ $52^2 - 45^2$ $340^2 - 339^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ |
| 680 | 1 010 101 000 221012 | $2^3 \cdot 5 \cdot 17$ $14^2 + 22^2$ $2^2 + 26^2$ $10^2 + 16^2 + 18^2$ $2^2 + 10^2 + 24^2$ $27^2 - 7^2$ $39^2 - 29^2$ $87^2 - 83^2$ $171^2 - 169^2$ $(\frac{17}{3})$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 681 | 1 010 101 001 221020 | $3 \cdot 227$ $13^2 + 16^2 + 16^2$ $14^2 + 14^2 + 17^2$ $8^2 + 16^2 + 19^2$ $5^2 + 16^2 + 20^2$ $1^2 + 14^2 + 22^2$ $1^2 + 2^2 + 26^2$ $115^2 - 112^2$ $341^2 - 340^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 682 | 1 010 101 010 221021 | $2 \cdot 11 \cdot 31$ $4^2 + 15^2 + 21^2$ $3^2 + 12^2 + 23^2$ $5^2 + 9^2 + 24^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|--|
| 683 | 1 010 101 011 221022 | prime $13^2 + 15^2 + 17^2$ $11^2 + 11^2 + 21^2$ $3^2 + 7^2 + 25^2$ $342^2 - 341^2$ $5 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 684 | 1 010 101 100 221100 | $2^2 \cdot 3^2 \cdot 19$ $6^2 + 18^2 + 18^2$ $10^2 + 10^2 + 22^2$ $2^2 + 14^2 + 22^2$ $2^2 + 2^2 + 26^2$ $5^3 + 6^3 + 7^3$ $28^2 - 10^2$ $60^2 - 54^2$ $172^2 - 170^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ |
| 685 | 1 010 101 101 221101 | $5 \cdot 137$ $18^2 + 19^2$ $3^2 + 26^2$ $10^2 + 12^2 + 21^2$ $3^2 + 10^2 + 24^2$ $71^2 - 66^2$ $343^2 - 342^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ |
| 686 | 1 010 101 110 221102 | $2 \cdot 7^3$ $10^2 + 15^2 + 19^2$ $6^2 + 17^2 + 19^2$ $1^2 + 18^2 + 19^2$ $7^2 + 14^2 + 21^2$ $9^2 + 11^2 + 22^2$ $6^2 + 11^2 + 23^2$ $5^2 + 6^2 + 25^2$ $1^2 + 3^2 + 26^2$ $7^3 + 7^3$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 687 | 1 010 101 111 221110 | $3 \cdot 229$ $1^3 + 7^3 + 7^3$ $116^2 - 113^2$ $344^2 - 343^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 688 | 1 010 110 000 221111 | $2^4 \cdot 43$ $12^2 + 12^2 + 20^2$ $47^2 - 39^2$ $88^2 - 84^2$ $173^2 - 171^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 689 | 1 010 110 001 221112 | $13 \cdot 53$ $17^2 + 20^2$ $8^2 + 25^2$ $12^2 + 16^2 + 17^2$ $13^2 + 14^2 + 18^2$ $2^2 + 18^2 + 19^2$ $8^2 + 15^2 + 20^2$ $6^2 + 13^2 + 22^2$ $3^2 + 14^2 + 22^2$ $4^2 + 12^2 + 23^2$ $7^2 + 8^2 + 24^2$ $2^2 + 3^2 + 26^2$ $33^2 - 20^2$ $345^2 - 344^2$ $5 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 690 | 1 010 110 010 221120 | $2 \cdot 3 \cdot 5 \cdot 23$ $11^2 + 13^2 + 20^2$ $1^2 + 17^2 + 20^2$ $4^2 + 7^2 + 25^2$ $1^2 + 8^2 + 25^2$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3!$ |
| 691 | 1 010 110 011 221121 | prime $9^2 + 13^2 + 21^2$ $5^2 + 15^2 + 21^2$ $9^2 + 9^2 + 23^2$ $346^2 - 345^2$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1!$ |
| 692 | 1 010 110 100 221122 | $2^2 \cdot 173$ $4^2 + 26^2$ $6^2 + 16^2 + 20^2$ $8^2 + 12^2 + 22^2$ $4^2 + 10^2 + 24^2$ $174^2 - 172^2$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 693 | 1 010 110 101 221200 | $3^2 \cdot 7 \cdot 11$ $12^2 + 15^2 + 18^2$ $2^2 + 17^2 + 20^2$ $8^2 + 10^2 + 23^2$ $6^2 + 9^2 + 24^2$ $2^2 + 8^2 + 25^2$ $1^2 + 4^2 + 26^2$ $27^2 - 6^2$ $37^2 - 26^2$ $43^2 - 34^2$ $53^2 - 46^2$ $117^2 - 114^2$ $347^2 - 346^2$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 694 | 1 010 110 110 221201 | $2 \cdot 3 \cdot 47$ $9^2 + 17^2 + 18^2$ $3^2 + 18^2 + 19^2$ $3^2 + 3^2 + 26^2$ $2^3 + 7^3 + 7^3$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 695 | 1 010 110 111 221202 | $5 \cdot 139$ $72^2 - 67^2$ $348^2 - 347^2$ $5 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 696 | 1 010 111 000 221210 | $2^3 \cdot 3 \cdot 29$ $10^2 + 14^2 + 20^2$ $4^2 + 14^2 + 22^2$ $2^2 + 4^2 + 26^2$ $35^2 - 23^2$ $61^2 - 55^2$ $89^2 - 85^2$ $175^2 - 173^2$ $5 \cdot 5! + 4 \cdot 4!$ |
| 697 | 1 010 111 001 221211 | $17 \cdot 41$ $16^2 + 21^2$ $11^2 + 24^2$ $7^2 + 18^2 + 18^2$ $6^2 + 6^2 + 25^2$ $29^2 - 12^2$ $349^2 - 348^2$ $5 \cdot 5! + 4 \cdot 4! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|-------------------------|---|
| 698 | 1 010 111 010 221212 | $2 \cdot 349$ $13^2 + 23^2$ $9^2 + 16^2 + 19^2$ $3^2 + 17^2 + 20^2$ $1^2 + 16^2 + 21^2$ $5^2 + 12^2 + 23^2$ $1^2 + 11^2 + 24^2$ $3^2 + 8^2 + 25^2$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ |
| 699 | 1 010 111 011 221220 | $3 \cdot 233$ $11^2 + 17^2 + 17^2$ $13^2 + 13^2 + 19^2$ $7^2 + 17^2 + 19^2$ $7^2 + 11^2 + 23^2$ $1^2 + 13^2 + 23^2$ $5^2 + 7^2 + 25^2$ $118^2 - 115^2$ $350^2 - 349^2$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 2! + 1!$ |
| 700 | 1 010 111 100 221221 | $2^2 \cdot 5^2 \cdot 7$ $32^2 - 18^2$ $40^2 - 30^2$ $176^2 - 174^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 2!$ |
| 701 | 1 010 111 101 221222 | prime $5^2 + 26^2$ $11^2 + 16^2 + 18^2$ $12^2 + 14^2 + 19^2$ $4^2 + 18^2 + 19^2$ $8^2 + 14^2 + 21^2$ $2^2 + 16^2 + 21^2$ $5^2 + 10^2 + 24^2$ $2^2 + 11^2 + 24^2$ $3^2 + 4^2 + 26^2$ $351^2 - 350^2$ $4^3 + 5^3 + 8^3$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 2! + 1!$ |
| 702 | 1 010 111 110 222000 | $2 \cdot 3^3 \cdot 13$ $6^2 + 15^2 + 21^2$ $7^2 + 13^2 + 22^2$ $2^2 + 13^2 + 23^2$ $1^2 + 5^2 + 26^2$ $9^3 - 3^3$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ |
| 703 | 1 010 111 111 222001 | $19 \cdot 37$ $\sum_1^{37} n$ $28^2 - 9^2$ $352^2 - 351^2$ (\sum_2^{38}) $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ |
| 704 | 1 011 000 000 222002 | $2^6 \cdot 11$ $8^2 + 8^2 + 24^2$ $27^2 - 5^2$ $30^2 - 14^2$ $48^2 - 14^2$ $90^2 - 86^2$ $177^2 - 175^2$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 705 | 1 011 000 001 222010 | $3 \cdot 5 \cdot 47$ $7^2 + 16^2 + 20^2$ $4^2 + 17^2 + 20^2$ $10^2 + 11^2 + 22^2$ $5^2 + 14^2 + 22^2$ $4^2 + 8^2 + 25^2$ $2^2 + 5^2 + 26^2$ $31^2 - 16^2$ $73^2 - 68^2$ $119^2 - 116^2$ $353^2 - 352^2$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 706 | 1 011 000 010 222011 | $2 \cdot 353$ $9^2 + 25^2$ $15^2 + 15^2 + 16^2$ $9^2 + 15^2 + 20^2$ $11^2 + 12^2 + 21^2$ $3^2 + 16^2 + 21^2$ $7^2 + 9^2 + 24^2$ $3^2 + 11^2 + 24^2$ $3^4 + 5^4$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 707 | 1 011 000 011 222012 | $7 \cdot 101$ $11^2 + 15^2 + 19^2$ $3^2 + 13^2 + 23^2$ $1^2 + 9^2 + 25^2$ $1^4 + 3^4 + 5^4$ $54^2 - 47^2$ $354^2 - 353^2$ $5 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 708 | 1 011 000 100 222020 | $2^2 \cdot 3 \cdot 59$ $14^2 + 16^2 + 16^2$ $4^2 + 4^2 + 26^2$ $62^2 - 56^2$ $178^2 - 176^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ r(28) |
| 709 | 1 011 000 101 222021 | prime $15^2 + 22^2$ $9^2 + 12^2 + 22^2$ $6^2 + 12^2 + 23^2$ $355^2 - 354^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1!$ |
| 710 | 1 011 000 110 222022 | $2 \cdot 5 \cdot 71$ $14^2 + 15^2 + 17^2$ $5^2 + 18^2 + 19^2$ $10^2 + 13^2 + 21^2$ $1^2 + 15^2 + 22^2$ $9^2 + 10^2 + 23^2$ $6^2 + 7^2 + 25^2$ $2^2 + 9^2 + 25^2$ $3^2 + 5^2 + 26^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 711 | 1 011 000 111 222100 | $3^2 \cdot 79$ $44^2 - 35^2$ $120^2 - 117^2$ $356^2 - 355^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 712 | 1 011 001 000 222101 | $2^3 \cdot 89$ $6^2 + 26^2$ $8^2 + 18^2 + 18^2$ $6^2 + 10^2 + 24^2$ $91^2 - 87^2$ $179^2 - 177^2$ $5 \cdot 5! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|------------------------------|---|--------------------------------|--|---|
| 713 | 1 011 001 001 | $23 \cdot 31$ | $10^2 + 17^2 + 18^2$ | $12^2 + 13^2 + 20^2$ | $4^2 + 16^2 + 21^2$ | $2^2 + 15^2 + 22^2$ |
| | 222102 | $4^2 + 11^2 + 24^2$ | $1^2 + 6^2 + 26^2$ | $3^3 + 7^3 + 7^3$ | $27^2 - 4^2$ | $357^2 - 356^2$ |
| 714 | 1 011 001 010 | $2 \cdot 3 \cdot 7 \cdot 17$ | $13^2 + 16^2 + 17^2$ | $8^2 + 17^2 + 19^2$ | $5^2 + 17^2 + 20^2$ | |
| | 222110 | $8^2 + 11^2 + 23^2$ | $4^2 + 13^2 + 23^2$ | $5^2 + 8^2 + 25^2$ | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3!$ | |
| 715 | 1 011 001 011 | $5 \cdot 11 \cdot 13$ | $7^2 + 15^2 + 21^2$ | $3^2 + 9^2 + 25^2$ | $34^2 - 21^2$ | |
| | 222111 | $38^2 - 27^2$ | $74^2 - 69^2$ | $358^2 - 357^2$ | $(^{13})_4$ | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1!$ |
| 716 | 1 011 001 100 | $2^2 \cdot 179$ | $14^2 + 14^2 + 18^2$ | $6^2 + 14^2 + 22^2$ | $2^2 + 6^2 + 26^2$ | $180^2 - 178^2$ |
| | 222112 | | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | | |
| 717 | 1 011 001 101 | $3 \cdot 239$ | $10^2 + 16^2 + 19^2$ | $11^2 + 14^2 + 20^2$ | $8^2 + 13^2 + 22^2$ | $4^2 + 5^2 + 26^2$ |
| | 222120 | $121^2 - 118^2$ | $359^2 - 358^2$ | | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 718 | 1 011 001 110 | $2 \cdot 359$ | $13^2 + 15^2 + 18^2$ | $9^2 + 14^2 + 21^2$ | $3^2 + 15^2 + 22^2$ | |
| | 222121 | | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | | | |
| 719 | 1 011 001 111 | prime | $360^2 - 359^2$ | | $5 \cdot 5! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| | 222122 | | | | | |
| 720 | 1 011 010 000 | $2^4 \cdot 3^2 \cdot 5$ | $12^2 + 24^2$ | $8^2 + 16^2 + 20^2$ | $27^2 - 3^2$ | $28^2 - 8^2$ |
| | 222200 | $36^2 - 24^2$ | $41^2 - 31^2$ | $49^2 - 41^2$ | $63^2 - 57^2$ | $92^2 - 88^2$ |
| | | $6!$ | $s_7^{(1)}$ | | | $181^2 - 179^2$ |
| 721 | 1 011 010 001 | $7 \cdot 103$ | $6^2 + 18^2 + 19^2$ | $8^2 + 9^2 + 24^2$ | $1^2 + 12^2 + 24^2$ | $3^2 + 6^2 + 26^2$ |
| | 222201 | $55^2 - 48^2$ | $361^2 - 360^2$ | $9^3 - 2^3$ | $16^3 - 15^3$ | $1 \cdot 6! + 1!$ |
| 722 | 1 011 010 010 | $2 \cdot 19^2$ | $19^2 + 19^2$ | $12^2 + 17^2 + 17^2$ | $5^2 + 16^2 + 21^2$ | $7^2 + 12^2 + 23^2$ |
| | 222202 | $5^2 + 11^2 + 24^2$ | $4^2 + 9^2 + 25^2$ | $2^4 + 3^4 + 5^4$ | | $1 \cdot 6! + 1 \cdot 2!$ |
| 723 | 1 011 010 011 | $3 \cdot 241$ | $1^2 + 19^2 + 19^2$ | $5^2 + 13^2 + 23^2$ | $7^2 + 7^2 + 25^2$ | $122^2 - 119^2$ |
| | 222210 | $362^2 - 361^2$ | | $1 \cdot 6! + 1 \cdot 2! + 1!$ | | |
| 724 | 1 011 010 100 | $2^2 \cdot 181$ | $18^2 + 20^2$ | $12^2 + 16^2 + 18^2$ | $2^2 + 12^2 + 24^2$ | $182^2 - 180^2$ |
| | 222211 | | $1 \cdot 6! + 2 \cdot 2!$ | | | |
| 725 | 1 011 010 101 | $5^2 \cdot 29$ | $14^2 + 23^2$ | $10^2 + 25^2$ | $7^2 + 26^2$ | $10^2 + 15^2 + 20^2$ |
| | 222212 | $1^2 + 18^2 + 20^2$ | $4^2 + 15^2 + 22^2$ | $7^2 + 10^2 + 24^2$ | $6^2 + 8^2 + 25^2$ | $27^2 - 2^2$ |
| | | $75^2 - 70^2$ | $363^2 - 362^2$ | $1 \cdot 6! + 2 \cdot 2! + 1!$ | | |
| 726 | 1 011 010 110 | $2 \cdot 3 \cdot 11^2$ | $13^2 + 14^2 + 19^2$ | $2^2 + 19^2 + 19^2$ | $11^2 + 11^2 + 22^2$ | $1^2 + 14^2 + 23^2$ |
| | 222220 | $1^2 + 10^2 + 25^2$ | $5^2 + 5^2 + 26^2$ | $1^2 + 7^2 + 26^2$ | $1 \cdot 6! + 1 \cdot 3!$ | |
| 727 | 1 011 010 111 | prime | $364^2 - 363^2$ | | $1 \cdot 6! + 1 \cdot 3! + 1!$ | |
| | 222221 | | | | | |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|--------------------------------|---|----------------------|---|---------------------------|
| 728 | 1 011 011 000 | $2^3 \cdot 7 \cdot 13$ | $2^2 + 18^2 + 20^2$ | $10^2 + 12^2 + 22^2$ | $4^2 + 6^2 + 26^2$ | $6^3 + 8^3$ |
| | 222222 | $27^2 - 1^2$ | $33^2 - 19^2$ | $93^2 - 89^2$ | $183^2 - 181^2$ | $9^3 - 1^3$ |
| 729 | 1 011 011 001 | 3^6 | 27^2 | 9^3 | $9^2 + 18^2 + 18^2$ | $12^2 + 12^2 + 21^2$ |
| | 1000000 | $10^2 + 10^2 + 23^2$ | $2^2 + 14^2 + 23^2$ | $3^2 + 12^2 + 24^2$ | $2^2 + 10^2 + 25^2$ | $7^2 + 14^2 + 22^2$ |
| 730 | 1 011 011 010 | $2^2 + 7^2 + 26^2$ | $1^3 + 6^3 + 8^3$ | $3^5 + 3^5 + 3^5$ | $45^2 - 36^2$ | $123^2 - 120^2$ |
| | 1000001 | $365^2 - 364^2$ | $1 \cdot 6! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | |
| 731 | 1 011 011 011 | $17 \cdot 43$ | $9^2 + 17^2 + 19^2$ | $3^2 + 19^2 + 19^2$ | $11^2 + 13^2 + 21^2$ | $1^2 + 17^2 + 21^2$ |
| | 1000002 | $9^2 + 11^2 + 23^2$ | $5^2 + 9^2 + 25^2$ | $1^2 + 1^2 + 27^2$ | $1^3 + 1^3 + 9^3$ | $1^6 + 1^6 + 3^6$ |
| 732 | 1 011 011 100 | $2^2 \cdot 3 \cdot 61$ | $64^2 - 58^2$ | $184^2 - 182^2$ | $1 \cdot 6! + 2 \cdot 3!$ | |
| | 1000010 | | | | | |
| 733 | 1 011 011 101 | prime | $2^2 + 27^2$ | $3^2 + 18^2 + 20^2$ | $6^2 + 16^2 + 21^2$ | $6^2 + 11^2 + 21^2$ |
| | 1000011 | $367^2 - 366^2$ | $1 \cdot 6! + 2 \cdot 3! + 1!$ | | | |
| 734 | 1 011 011 110 | $2 \cdot 367$ | $11^2 + 17^2 + 18^2$ | $7^2 + 18^2 + 19^2$ | $2^2 + 17^2 + 21^2$ | $9^2 + 13^2 + 22^2$ |
| | 1000012 | $5^2 + 15^2 + 22^2$ | $6^2 + 13^2 + 23^2$ | $3^2 + 14^2 + 23^2$ | $3^2 + 10^2 + 25^2$ | $3^2 + 7^2 + 26^2$ |
| 735 | 1 011 011 111 | $3 \cdot 5 \cdot 7^2$ | $28^2 - 7^2$ | $32^2 - 17^2$ | $56^2 - 49^2$ | $76^2 - 71^2$ |
| | 1000020 | $368^2 - 367^2$ | $1 \cdot 6! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | $-s_7^{(4)}$ | |
| 736 | 1 011 100 000 | $2^5 \cdot 23$ | $4^2 + 12^2 + 24^2$ | $2^3 + 6^3 + 8^3$ | $31^2 - 15^2$ | $50^2 - 42^2$ |
| | 1000021 | $185^2 - 183^2$ | $1 \cdot 6! + 2 \cdot 3! + 2 \cdot 2!$ | | | $94^2 - 90^2$ |
| 737 | 1 011 100 001 | $11 \cdot 67$ | $15^2 + 16^2 + 16^2$ | $9^2 + 16^2 + 20^2$ | $10^2 + 14^2 + 21^2$ | $8^2 + 12^2 + 23^2$ |
| | 1000022 | $5^2 + 6^2 + 26^2$ | $2^2 + 2^2 + 27^2$ | $2^3 + 9^3$ | $39^2 - 28^2$ | $369^2 - 368^2$ |
| 738 | 1 011 100 010 | $2 \cdot 3^2 \cdot 41$ | $3^2 + 27^2$ | $11^2 + 16^2 + 19^2$ | $4^2 + 19^2 + 19^2$ | $13^2 + 13^2 + 20^2$ |
| | 1000100 | $7^2 + 17^2 + 20^2$ | $9^2 + 9^2 + 24^2$ | $7^2 + 8^2 + 25^2$ | $1^3 + 2^3 + 9^3$ | $1 \cdot 6! + 3 \cdot 3!$ |
| 739 | 1 011 100 011 | prime | $15^2 + 15^2 + 17^2$ | $3^2 + 17^2 + 21^2$ | $1^2 + 3^2 + 27^2$ | $370^2 - 369^2$ |
| | 1000101 | $1 \cdot 6! + 3 \cdot 3! + 1!$ | | | | |
| 740 | 1 011 100 100 | $2^2 \cdot 5 \cdot 37$ | $16^2 + 22^2$ | $8^2 + 26^2$ | $12^2 + 14^2 + 20^2$ | $4^2 + 18^2 + 20^2$ |
| | 1000102 | $8^2 + 10^2 + 24^2$ | $42^2 - 32^2$ | $186^2 - 184^2$ | $1 \cdot 6! + 3 \cdot 3! + 1 \cdot 2!$ | |
| 741 | 1 011 100 101 | $3 \cdot 13 \cdot 19$ | $\sum_{n=1}^{38} n$ | $14^2 + 16^2 + 17^2$ | $1^2 + 16^2 + 22^2$ | $4^2 + 14^2 + 23^2$ |
| | 1000110 | $4^2 + 10^2 + 25^2$ | $4^2 + 7^2 + 26^2$ | $1^2 + 8^2 + 26^2$ | $29^2 - 10^2$ | $35^2 - 22^2$ |
| | | $125^2 - 122^2$ | $371^2 - 370^2$ | $(39)_2$ | $1 \cdot 6! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |

(continued)

Table III (continued)

| | | | | | |
|-----|--------------------------|---|--------------------------------------|---|--|
| 742 | 1 011 100 110 1000111 | 2·7·53 | $6^2 + 9^2 + 25^2$ | $2^2 + 3^2 + 27^2$ | $1 \cdot 6! + 3 \cdot 3! + 2 \cdot 2!$ |
| 743 | 1 011 100 111 1000112 | prime | $372^2 - 371^2$ | $1 \cdot 6! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 744 | 1 011 101 000 1000120 | $2^3 \cdot 3 \cdot 31$ $65^2 - 59^2$ | $8^2 + 14^2 + 22^2$ $95^2 - 91^2$ | $2^2 + 16^2 + 22^2$ $187^2 - 185^2$ | $2^2 + 8^2 + 26^2$ $1 \cdot 6! + 1 \cdot 4!$ |
| 745 | 1 011 101 001 1000121 | $5 \cdot 149$ | $13^2 + 24^2$ | $4^2 + 27^2$ | $14^2 + 15^2 + 18^2$ |
| | | | $5^2 + 12^2 + 24^2$ | $2^3 + 2^3 + 9^3$ | $6^2 + 15^2 + 22^2$ |
| | | | | $77^2 - 72^2$ | $373^2 - 372^2$ |
| 746 | 1 011 101 010 1000122 | $2 \cdot 373$ | $11^2 + 25^2$ | $11^2 + 15^2 + 20^2$ | $7^2 + 16^2 + 21^2$ |
| | | | $7^2 + 11^2 + 24^2$ | $1^2 + 13^2 + 24^2$ | $4^2 + 4^2 + 27^2$ |
| | | | | $1^2 + 4^2 + 27^2$ | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 2!$ |
| 747 | 1 011 101 011 1000200 | $3^2 \cdot 83$ | $13^2 + 17^2 + 17^2$ | $5^2 + 19^2 + 19^2$ | $9^2 + 15^2 + 21^2$ |
| | | | $1^2 + 11^2 + 25^2$ | $3^2 + 3^2 + 27^2$ | $7^2 + 13^2 + 23^2$ |
| | | | | $46^2 - 37^2$ | $126^2 - 123^2$ |
| | | | | | $374^2 - 373^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 2! + 1!$ |
| 748 | 1 011 101 100 1000201 | $2^2 \cdot 11 \cdot 17$ | $10^2 + 18^2 + 18^2$ | $6^2 + 6^2 + 26^2$ | $28^2 - 6^2$ |
| | | | | | $188^2 - 186^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 2!$ |
| 749 | 1 011 101 101 1000202 | $7 \cdot 107$ | $13^2 + 16^2 + 18^2$ | $8^2 + 18^2 + 19^2$ | $5^2 + 18^2 + 20^2$ |
| | | | $3^2 + 16^2 + 22^2$ | $2^2 + 13^2 + 24^2$ | $11^2 + 12^2 + 22^2$ |
| | | | $57^2 - 50^2$ | $375^2 - 374^2$ | $2^2 + 4^2 + 27^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 2! + 1!$ |
| 750 | 1 011 101 110 1000210 | $2 \cdot 3 \cdot 5^3$ | $10^2 + 17^2 + 19^2$ | $10^2 + 11^2 + 23^2$ | $5^2 + 14^2 + 23^2$ |
| | | | $2^2 + 11^2 + 25^2$ | $5^2 + 7^2 + 26^2$ | $5^2 + 10^2 + 25^2$ |
| | | | | $4^3 + 7^3 + 7^3$ | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3!$ |
| | | | | | $\frac{8}{10}^{(8)}$ |
| 751 | 1 011 101 111 1000211 | prime | $376^2 - 375^2$ | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3! + 1!$ | |
| 752 | 1 011 110 000 1000212 | $2^4 \cdot 47$ | $51^2 - 43^2$ | $96^2 - 92^2$ | $189^2 - 187^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 753 | 1 011 110 001 1000220 | $3 \cdot 251$ | $14^2 + 14^2 + 19^2$ | $8^2 + 17^2 + 20^2$ | $10^2 + 13^2 + 22^2$ |
| | | | $127^2 - 124^2$ | $377^2 - 376^2$ | $8^2 + 8^2 + 25^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 754 | 1 011 110 010 1000221 | $2 \cdot 13 \cdot 29$ | $15^2 + 23^2$ | $5^2 + 27^2$ | $12^2 + 13^2 + 21^2$ |
| | | | $3^2 + 13^2 + 24^2$ | $3^2 + 4^2 + 27^2$ | $9^2 + 12^2 + 23^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 755 | 1 011 110 011 1000222 | $5 \cdot 151$ | $13^2 + 15^2 + 19^2$ | $5^2 + 17^2 + 21^2$ | $1^2 + 15^2 + 23^2$ |
| | | | $3^2 + 11^2 + 25^2$ | $1^2 + 5^2 + 27^2$ | $7^2 + 9^2 + 25^2$ |
| | | | | $3^3 + 6^3 + 8^3$ | $78^2 - 73^2$ |
| | | | | | $378^2 - 377^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 756 | 1 011 110 100 1001000 | $2^2 \cdot 3^3 \cdot 7$ | $10^2 + 16^2 + 20^2$ | $4^2 + 16^2 + 22^2$ | $6^2 + 12^2 + 24^2$ |
| | | | $3^3 + 9^3$ | $30^2 - 12^2$ | $4^2 + 8^2 + 26^2$ |
| | | | | $34^2 - 20^2$ | $66^2 - 60^2$ |
| | | | | | $190^2 - 188^2$ |
| | | | | | $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3!$ |
| 757 | 1 011 110 101 1001001 | prime | $9^2 + 26^2$ | $12^2 + 17^2 + 18^2$ | $9^2 + 10^2 + 24^2$ |
| | | | $379^2 - 378^2$ | $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $1^3 + 3^3 + 9^3$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|--------------------------|---|--|---|---|--|
| 758 | 1 011 110 110 1001002 | $2 \cdot 379$ $1^2 + 9^2 + 26^2$ | $6^2 + 19^2 + 19^2$ $2^2 + 5^2 + 27^2$ | $11^2 + 14^2 + 21^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $7^2 + 15^2 + 22^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $2^2 + 15^2 + 23^2$ |
| 759 | 1 011 110 111 1001010 | $3 \cdot 11 \cdot 23$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $28^2 - 5^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $40^2 - 29^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $128^2 - 125^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | $380^2 - 379^2$ |
| 760 | 1 011 111 000 1001011 | $2^3 \cdot 5 \cdot 19$ $191^2 - 189^2$ | $6^2 + 18^2 + 20^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $29^2 - 9^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $43^2 - 33^2$ $q(37)$ | $97^2 - 93^2$ |
| 761 | 1 011 111 001 1001012 | prime 19 ² $6^2 + 14^2 + 23^2$ $6^2 + 7^2 + 26^2$ | $19^2 + 20^2$ $8^2 + 11^2 + 24^2$ $2^2 + 9^2 + 26^2$ | $12^2 + 16^2 + 19^2$ $4^2 + 13^2 + 24^2$ $4^2 + 4^2 + 27^2$ | $8^2 + 16^2 + 21^2$ $6^2 + 10^2 + 25^2$ $381^2 - 380^2$ | $9^2 + 14^2 + 22^2$ $1 \cdot 6! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 762 | 1 011 111 010 1001020 | $2 \cdot 3 \cdot 127$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3!$ | $1^2 + 19^2 + 20^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3!$ | $8^2 + 13^2 + 23^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3!$ | $4^2 + 11^2 + 25^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $5^3 + 5^3 + 8^3$ |
| 763 | 1 011 111 011 1001021 | $7 \cdot 109$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $3^2 + 15^2 + 23^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $3^2 + 5^2 + 27^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $58^2 - 51^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $382^2 - 381^2$ |
| 764 | 1 011 111 100 1001022 | $2^2 \cdot 191$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $2^3 + 3^3 + 9^3$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $192^2 - 190^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| 765 | 1 011 111 101 1001100 | $3^2 \cdot 5 \cdot 17$ $5^2 + 16^2 + 22^2$ $79^2 - 74^2$ | $18^2 + 21^2$ $5^2 + 8^2 + 26^2$ $129^2 - 126^2$ | $6^2 + 27^2$ $3^2 + 14^2$ $383^2 - 382^2$ | $13^2 + 14^2 + 20^2$ $31^2 - 14^2$ $33^2 - 18^2$ | $2^2 + 19^2 + 20^2$ $47^2 - 38^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 766 | 1 011 111 110 1001101 | $2 \cdot 383$ $3^2 + 9^2 + 26^2$ | $9^2 + 18^2 + 19^2$ $1^2 + 6^2 + 27^2$ | $10^2 + 15^2 + 21^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $6^2 + 17^2 + 21^2$ $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $1^2 + 18^2 + 21^2$ |
| 767 | 1 011 111 111 1001102 | $13 \cdot 59$ | $36^2 - 23^2$ | $384^2 - 383^2$ | $1 \cdot 6! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 768 | 1 100 000 000 1001110 | $2^8 \cdot 3$ $52^2 - 44^2$ | $16^2 + 16^2 + 16^2$ $67^2 - 61^2$ | $4^4 + 4^4 + 4^4$ $98^2 - 94^2$ | $28^2 - 4^2$ $193^2 - 191^2$ | $32^2 - 16^2$ $1 \cdot 6! + 2 \cdot 4!$ |
| 769 | 1 100 000 001 1001111 | prime $7^2 + 12^2 + 24^2$ | $12^2 + 25^2$ $2^2 + 6^2 + 27^2$ | $11^2 + 18^2 + 18^2$ $385^2 - 384^2$ | $12^2 + 15^2 + 20^2$ $1 \cdot 6! + 2 \cdot 4! + 1!$ | $2^2 + 18^2 + 21^2$ |
| 770 | 1 100 000 010 1001112 | $2 \cdot 5 \cdot 7 \cdot 11$ $5^2 + 13^2 + 24^2$ | $15^2 + 16^2 + 17^2$ $8^2 + 9^2 + 25^2$ | $9^2 + 17^2 + 20^2$ $1^2 + 12^2 + 25^2$ | $3^2 + 19^2 + 20^2$ $4^2 + 5^2 + 27^2$ | $4^2 + 15^2 + 23^2$ |
| 771 | 1 100 000 011 1001120 | $3 \cdot 257$ $130^2 - 127^2$ | $11^2 + 17^2 + 19^2$ $386^2 - 385^2$ | $7^2 + 19^2 + 19^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 2! + 1!$ | $11^2 + 11^2 + 23^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 2! + 1!$ | $5^2 + 11^2 + 25^2$ |
| 772 | 1 100 000 100 1001121 | $2^2 \cdot 193$ 1001121 | $14^2 + 24^2$ | $12^2 + 12^2 + 22^2$ | $194^2 - 192^2$ | $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|--|
| 773 | 1 100 000 101 1001122 | prime $17^2 + 22^2$ $7^2 + 18^2 + 20^2$ $8^2 + 15^2 + 22^2$ $10^2 + 12^2 + 23^2$ $1^2 + 14^2 + 24^2$ $2^2 + 12^2 + 25^2$ $4^2 + 9^2 + 26^2$ $387^2 - 386^2$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 2! + 1!$ |
| 774 | 1 100 000 110 1001200 | $2 \cdot 3^2 \cdot 43$ $14^2 + 17^2 + 17^2$ $15^2 + 15^2 + 18^2$ $3^2 + 18^2 + 21^2$ $11^2 + 13^2 + 22^2$ $1^2 + 17^2 + 22^2$ $7^2 + 14^2 + 23^2$ $7^2 + 10^2 + 25^2$ $7^2 + 7^2 + 26^2$ $3^2 + 6^2 + 27^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3!$ |
| 775 | 1 100 000 111 1001201 | $5^2 \cdot 31$ $6^3 + 6^3 + 7^3$ $28^2 - 3^2$ $80^2 - 75^2$ $388^2 - 387^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3! + 1!$ |
| 776 | 1 100 001 000 1001202 | $2^3 \cdot 97$ $10^2 + 26^2$ $14^2 + 16^2 + 18^2$ $6^2 + 16^2 + 22^2$ $10^2 + 10^2 + 24^2$ $2^2 + 14^2 + 24^2$ $6^2 + 8^2 + 26^2$ $99^2 - 95^2$ $195^2 - 193^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 777 | 1 100 001 001 1001210 | $3 \cdot 7 \cdot 37$ $11^2 + 16^2 + 20^2$ $4^2 + 19^2 + 20^2$ $2^2 + 17^2 + 22^2$ $1^2 + 10^2 + 26^2$ $29^2 - 8^2$ $59^2 - 52^2$ $131^2 - 128^2$ $389^2 - 388^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 778 | 1 100 001 010 1001211 | $2 \cdot 389$ $7^2 + 27^2$ $9^2 + 16^2 + 21^2$ $9^2 + 11^2 + 24^2$ $3^2 + 12^2 + 25^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 779 | 1 100 001 011 1001212 | $19 \cdot 41$ $13^2 + 13^2 + 21^2$ $7^2 + 17^2 + 21^2$ $9^2 + 13^2 + 23^2$ $5^2 + 15^2 + 23^2$ $5^2 + 5^2 + 27^2$ $1^2 + 7^2 + 27^2$ $30^2 - 11^2$ $390^2 - 389^2$ $1 \cdot 6! + 2 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 780 | 1 100 001 100 1001220 | $2^2 \cdot 3 \cdot 5 \cdot 13$ $\sum_{n=1}^{39} n$ $10^2 + 14^2 + 22^2$ $2^2 + 10^2 + 26^2$ $28^2 - 2^2$ $44^2 - 34^2$ $68^2 - 62^2$ $196^2 - 194^2$ $(\frac{40}{2})$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3!$ |
| 781 | 1 100 001 101 1001221 | $11 \cdot 71$ $12^2 + 14^2 + 21^2$ $4^2 + 18^2 + 21^2$ $6^2 + 13^2 + 24^2$ $3^2 + 14^2 + 24^2$ $4^2 + 6^2 + 27^2$ $41^2 - 30^2$ $391^2 - 390^2$ $4^5 - 3^5$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3! + 1!$ |
| 782 | 1 100 001 110 1001222 | $2 \cdot 17 \cdot 23$ $13^2 + 17^2 + 18^2$ $14^2 + 15^2 + 19^2$ $3^2 + 17^2 + 22^2$ $6^2 + 11^2 + 25^2$ $5^2 + 9^2 + 26^2$ $2^2 + 7^2 + 27^2$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 783 | 1 100 001 111 1002000 | $3^3 \cdot 29$ $3^3 + 3^3 + 9^3$ $28^2 - 1^2$ $48^2 - 39^2$ $132^2 - 129^2$ $392^2 - 391^2$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 784 | 1 100 010 000 1002001 | $2^4 \cdot 7^2$ 28^2 $8^2 + 12^2 + 24^2$ $\sum_{n=1}^7 n^3$ $35^2 - 21^2$ $53^2 - 45^2$ $100^2 - 96^2$ $197^2 - 195^2$ $10^3 - 6^3$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 785 | 1 100 010 001 1002002 | $5 \cdot 157$ $16^2 + 23^2$ $1^2 + 28^2$ $10^2 + 18^2 + 19^2$ $4^2 + 12^2 + 25^2$ $3^2 + 10^2 + 26^2$ $81^2 - 76^2$ $393^2 - 392^2$ $1 \cdot 6! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ |
| 786 | 1 100 010 010 1002010 | $2 \cdot 3 \cdot 131$ $13^2 + 16^2 + 19^2$ $8^2 + 19^2 + 19^2$ $5^2 + 19^2 + 20^2$ $1^2 + 16^2 + 23^2$ $1^2 + 1^2 + 28^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3!$ |
| 787 | 1 100 010 011 1002011 | prime $11^2 + 15^2 + 21^2$ $9^2 + 9^2 + 25^2$ $3^2 + 7^2 + 27^2$ $3^4 + 3^4 + 5^4$ $394^2 - 393^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|---|
| 788 | 1 100 010 100 1002012 | $2^2 \cdot 197$ $2^2 + 28^2$ $8^2 + 18^2 + 20^2$ $4^2 + 14^2 + 24^2$ $198^2 - 196^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 789 | 1 100 010 101 1002020 | $3 \cdot 263$ $10^2 + 17^2 + 20^2$ $7^2 + 16^2 + 22^2$ $4^2 + 17^2 + 22^2$ $8^2 + 14^2 + 23^2$ $2^2 + 16^2 + 23^2$ $8^2 + 10^2 + 25^2$ $7^2 + 8^2 + 26^2$ $1^2 + 2^2 + 28^2$ $133^2 - 130^2$ $395^2 - 394^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ |
| 790 | 1 100 010 110 1002021 | $2 \cdot 5 \cdot 79$ $5^2 + 18^2 + 21^2$ $9^2 + 15^2 + 22^2$ $6^2 + 15^2 + 23^2$ $5^2 + 6^2 + 27^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 791 | 1 100 010 111 1002022 | $7 \cdot 113$ $60^2 - 53^2$ $396^2 - 395^2$ $1 \cdot 6! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 792 | 1 100 011 000 1002100 | $2^3 \cdot 3^2 \cdot 11$ $12^2 + 18^2 + 18^2$ $14^2 + 14^2 + 20^2$ $4^2 + 10^2 + 26^2$ $2^2 + 2^2 + 28^2$ $4^3 + 6^3 + 8^3$ $29^2 - 7^2$ $31^2 - 13^2$ $39^2 - 27^2$ $69^2 - 63^2$ $101^2 - 97^2$ $199^2 - 197^2$ $(\frac{12}{5})$ $1 \cdot 6! + 3 \cdot 4!$ $p(21)$ |
| 793 | 1 100 011 001 1002101 | $13 \cdot 61$ $8^2 + 27^2$ $3^2 + 28^2$ $6^2 + 9^2 + 26^2$ $4^3 + 9^3$ $2^6 + 3^6$ $37^2 - 24^2$ $397^2 - 396^2$ $1 \cdot 6! + 3 \cdot 4! + 1!$ |
| 794 | 1 100 011 010 1002102 | $2 \cdot 397$ $13^2 + 25^2$ $12^2 + 17^2 + 19^2$ $13^2 + 15^2 + 20^2$ $8^2 + 17^2 + 21^2$ $11^2 + 12^2 + 23^2$ $3^2 + 16^2 + 23^2$ $7^2 + 13^2 + 24^2$ $5^2 + 12^2 + 25^2$ $4^2 + 7^2 + 27^2$ $1^2 + 8^2 + 27^2$ $1^2 + 3^2 + 28^2$ $1^3 + 4^3 + 9^3$ $1^6 + 2^6 + 3^6$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 2!$ |
| 795 | 1 100 011 011 1002110 | $3 \cdot 5 \cdot 53$ $7^2 + 11^2 + 25^2$ $1^2 + 13^2 + 25^2$ $34^2 - 19^2$ $82^2 - 77^2$ $134^2 - 131^2$ $398^2 - 397^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 2! + 1!$ |
| 796 | 1 100 011 100 1002111 | $2^2 \cdot 199$ $200^2 - 198^2$ $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 2!$ |
| 797 | 1 100 011 101 1002112 | prime $11^2 + 26^2$ $6^2 + 19^2 + 20^2$ $10^2 + 16^2 + 21^2$ $12^2 + 13^2 + 22^2$ $10^2 + 11^2 + 24^2$ $5^2 + 14^2 + 24^2$ $2^2 + 8^2 + 27^2$ $2^2 + 3^2 + 28^2$ $399^2 - 398^2$ $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 2! + 1!$ |
| 798 | 1 100 011 110 1002120 | $2 \cdot 3 \cdot 7 \cdot 19$ $5^2 + 17^2 + 22^2$ $10^2 + 13^2 + 23^2$ $2^2 + 13^2 + 25^2$ $1^2 + 11^2 + 26^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3!$ |
| 799 | 1 100 011 111 1002121 | $17 \cdot 47$ $32^2 - 15^2$ $400^2 - 399^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3! + 1!$ |
| 800 | 1 100 100 000 1002122 | $2^5 \cdot 5^2$ $20^2 + 20^2$ $4^2 + 28^2$ $12^2 + 16^2 + 20^2$ $30^2 - 10^2$ $33^2 - 17^2$ $45^2 - 35^2$ $54^2 - 46^2$ $102^2 - 98^2$ $201^2 - 199^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 801 | 1 100 100 001 1002200 | $3^2 \cdot 89$ $15^2 + 24^2$ $16^2 + 16^2 + 17^2$ $1^2 + 20^2 + 20^2$ $6^2 + 18^2 + 21^2$ $11^2 + 14^2 + 22^2$ $4^2 + 16^2 + 23^2$ $9^2 + 12^2 + 24^2$ $5^2 + 10^2 + 26^2$ $2^2 + 11^2 + 26^2$ $6^2 + 6^2 + 27^2$ $1^2 + 4^2 + 28^2$ $2^3 + 4^3 + 9^3$ $49^2 - 40^2$ $135^2 - 132^2$ $401^2 - 400^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 802 | 1 100 100 010 1002201 | $2 \cdot 401$ $19^2 + 21^2$ $1^2 + 15^2 + 24^2$ $3^2 + 8^2 + 27^2$ $3^2 + 3^2 + 28^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|--------------------------|--|---|---|--|--|
| 803 | 1 100 100 011 1002202 | $11 \cdot 73$ $3^2 + 13^2 + 25^2$ $1 \cdot 6! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | $15^2 + 17^2 + 17^2$ $5^2 + 7^2 + 27^2$ $42^2 - 31^2$ | $9^2 + 19^2 + 19^2$ $42^2 - 31^2$ $402^2 - 401^2$ | $1^2 + 19^2 + 21^2$ $402^2 - 401^2$ | $7^2 + 15^2 + 23^2$ |
| 804 | 1 100 100 100 1002210 | $2^2 \cdot 3 \cdot 67$ $70^2 - 64^2$ | $2^2 + 20^2 + 20^2$ $202^2 - 200^2$ | $8^2 + 16^2 + 22^2$ $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 3!$ | $8^2 + 8^2 + 26^2$ $403^2 - 402^2$ | $2^2 + 4^2 + 28^2$ |
| 805 | 1 100 100 101 1002211 | $5 \cdot 7 \cdot 23$ $29^2 - 6^2$ | $15^2 + 16^2 + 18^2$ $61^2 - 54^2$ | $9^2 + 18^2 + 20^2$ $83^2 - 78^2$ | $2^2 + 15^2 + 24^2$ $403^2 - 402^2$ | $6^2 + 12^2 + 25^2$ $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 3! + 11$ |
| 806 | 1 100 100 110 1002212 | $2 \cdot 13 \cdot 31$ $9^2 + 10^2 + 25^2$ | $11^2 + 18^2 + 19^2$ $7^2 + 9^2 + 26^2$ | $13^2 + 14^2 + 21^2$ $3^2 + 11^2 + 26^2$ | $2^2 + 19^2 + 21^2$ $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $9^2 + 14^2 + 23^2$ |
| 807 | 1 100 100 111 1002220 | $3 \cdot 269$ | $136^2 - 133^2$ | $404^2 - 403^2$ | $1 \cdot 6! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 808 | 1 100 101 000 1002221 | $2^3 \cdot 101$ | $18^2 + 22^2$ | $6^2 + 14^2 + 24^2$ | $103^2 - 99^2$ | $203^2 - 201^2$ |
| 809 | 1 100 101 001 1002222 | prime | $5^2 + 28^2$ $6^2 + 17^2 + 22^2$ | $14^2 + 17^2 + 18^2$ $1^2 + 18^2 + 22^2$ | $3^2 + 20^2 + 20^2$ $8^2 + 13^2 + 24^2$ | $10^2 + 15^2 + 22^2$ $4^2 + 8^2 + 27^2$ |
| 810 | 1 100 101 010 1010000 | $2 \cdot 3^4 \cdot 5$ | $9^2 + 27^2$ $5^2 + 16^2 + 23^2$ | $11^2 + 17^2 + 20^2$ $3^2 + 15^2 + 24^2$ | $7^2 + 19^2 + 20^2$ $8^2 + 11^2 + 25^2$ | $12^2 + 15^2 + 21^2$ $4^2 + 13^2 + 25^2$ |
| 811 | 1 100 101 011 1010001 | prime | $15^2 + 15^2 + 19^2$ $5^3 + 7^3 + 7^3$ | $9^2 + 17^2 + 21^2$ $406^2 - 405^2$ | $3^2 + 19^2 + 21^2$ $1 \cdot 6! + 3 \cdot 4! + 3 \cdot 3! + 1!$ | $1^2 + 9^2 + 27^2$ |
| 812 | 1 100 101 100 1010002 | $2^2 \cdot 7 \cdot 29$ | $2^2 + 18^2 + 22^2$ | $6^2 + 10^2 + 26^2$ | $36^2 - 22^2$ | $204^2 - 202^2$ |
| 813 | 1 100 101 101 1010010 | $3 \cdot 271$ | $14^2 + 16^2 + 19^2$ $407^2 - 406^2$ | $4^2 + 11^2 + 26^2$ $1 \cdot 6! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | $2^2 + 5^2 + 28^2$ | $137^2 - 134^2$ |
| 814 | 1 100 101 110 1010011 | $2 \cdot 11 \cdot 37$ | $7^2 + 18^2 + 21^2$ | $6^2 + 7^2 + 27^2$ | $2^2 + 9^2 + 27^2$ | |
| 815 | 1 100 101 111 1010012 | $5 \cdot 163$ | $84^2 - 79^2$ | $408^2 - 407^2$ | $1 \cdot 6! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 816 | 1 100 110 000 1010020 | $2^4 \cdot 3 \cdot 17$ | $4^2 + 20^2 + 20^2$ $55^2 - 47^2$ | $4^2 + 4^2 + 28^2$ $71^2 - 65^2$ | $29^2 - 5^2$ $104^2 - 100^2$ | $10^2 - 28^2$ $205^2 - 203^2$ |
| 817 | 1 100 110 001 1010021 | $19 \cdot 43$ | $13^2 + 18^2 + 18^2$ $31^2 - 12^2$ | $3^2 + 18^2 + 22^2$ $409^2 - 408^2$ | $12^2 + 12^2 + 23^2$ $17^3 - 16^3$ | $4^2 + 15^2 + 24^2$ $1 \cdot 6! + 4 \cdot 4! + 1!$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|---|
| 818 | 1 100 110 010 1010022 | $2 \cdot 409$ $17^2 + 23^2$ $11^2 + 16^2 + 21^2$ $4^2 + 19^2 + 21^2$ $8^2 + 15^2 + 23^2$ $11^2 + 11^2 + 24^2$ $7^2 + 12^2 + 25^2$ $5^2 + 8^2 + 27^2$ $3^2 + 5^2 + 28^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 2!$ |
| 819 | 1 100 110 011 1010100 | $3^2 \cdot 7 \cdot 13$ $13^2 + 17^2 + 19^2$ $11^2 + 13^2 + 23^2$ $1^2 + 17^2 + 23^2$ $5^2 + 13^2 + 25^2$ $3^2 + 9^2 + 27^2$ $\frac{13}{2} n^2$ $30^2 - 9^2$ $38^2 - 25^2$ $50^2 - 41^2$ $62^2 - 55^2$ $138^2 - 135^2$ $410^2 - 409^2$ $11^3 - 8^3$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 2! + 11$ |
| 820 | 1 100 110 100 1010101 | $2^2 \cdot 5 \cdot 41$ $\sum_{n=1}^{40} n$ $12^2 + 26^2$ $6^2 + 28^2$ $10^2 + 12^2 + 24^2$ $3^3 + 4^3 + 9^3$ $46^2 - 36^2$ $206^2 - 204^2$ $(\frac{41}{2})$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 2!$ |
| 821 | 1 100 110 101 1010102 | prime $14^2 + 25^2$ $14^2 + 15^2 + 20^2$ $9^2 + 16^2 + 22^2$ $6^2 + 16^2 + 23^2$ $7^2 + 14^2 + 24^2$ $8^2 + 9^2 + 26^2$ $1^2 + 12^2 + 26^2$ $1^2 + 6^2 + 28^2$ $411^2 - 410^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 2! + 11$ |
| 822 | 1 100 110 110 1010110 | $2 \cdot 3 \cdot 137$ $10^2 + 19^2 + 19^2$ $13^2 + 13^2 + 22^2$ $7^2 + 17^2 + 22^2$ $2^2 + 17^2 + 23^2$ $1^2 + 14^2 + 25^2$ $5^2 + 11^2 + 26^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3!$ |
| 823 | 1 100 110 111 1010111 | prime $412^2 - 411^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3! + 1!$ |
| 824 | 1 100 111 000 1010112 | $2^3 \cdot 103$ $10^2 + 18^2 + 20^2$ $12^2 + 14^2 + 22^2$ $4^2 + 18^2 + 22^2$ $2^2 + 12^2 + 26^2$ $2^2 + 6^2 + 28^2$ $105^2 - 101^2$ $207^2 - 205^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 825 | 1 100 111 001 1010120 | $3 \cdot 5^2 \cdot 11$ $13^2 + 16^2 + 20^2$ $8^2 + 19^2 + 20^2$ $5^2 + 20^2 + 20^2$ $10^2 + 14^2 + 23^2$ $10^2 + 10^2 + 25^2$ $2^2 + 14^2 + 25^2$ $7^2 + 10^2 + 26^2$ $4^2 + 5^2 + 28^2$ $29^2 - 4^2$ $35^2 - 20^2$ $43^2 - 32^2$ $85^2 - 80^2$ $139^2 - 136^2$ $413^2 - 412^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 826 | 1 100 111 010 1010121 | $2 \cdot 7 \cdot 59$ $9^2 + 13^2 + 24^2$ $5^2 + 15^2 + 24^2$ $4^2 + 9^2 + 27^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 827 | 1 100 111 011 1010122 | prime $5^2 + 19^2 + 21^2$ $3^2 + 17^2 + 23^2$ $9^2 + 11^2 + 25^2$ $7^2 + 7^2 + 27^2$ $414^2 - 413^2$ $1 \cdot 6! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 828 | 1 100 111 100 1010200 | $2^2 \cdot 3^2 \cdot 23$ $32^2 - 14^2$ $72^2 - 66^2$ $208^2 - 206^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3!$ |
| 829 | 1 100 111 101 1010201 | prime $10^2 + 27^2$ $12^2 + 18^2 + 19^2$ $8^2 + 18^2 + 21^2$ $3^2 + 12^2 + 26^2$ $6^2 + 8^2 + 27^2$ $3^2 + 6^2 + 28^2$ $415^2 - 414^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3! + 1!$ |
| 830 | 1 100 111 110 1010202 | $2 \cdot 5 \cdot 83$ $10^2 + 17^2 + 21^2$ $11^2 + 15^2 + 22^2$ $6^2 + 13^2 + 25^2$ $3^2 + 14^2 + 25^2$ $1^2 + 10^2 + 27^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 831 | 1 100 111 111 1010210 | $3 \cdot 277$ $140^2 - 137^2$ $416^2 - 415^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ |
| 832 | 1 101 000 000 1010211 | $2^6 \cdot 13$ $16^2 + 24^2$ $29^2 - 3^2$ $34^2 - 18^2$ $56^2 - 48^2$ $106^2 - 102^2$ $209^2 - 207^2$ $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|--|---|---|--|---|
| 833 | 1 101 000 001 | $7^2 \cdot 17$ | $7^2 + 28^2$ | $12^2 + 17^2 + 20^2$ | $14^2 + 14^2 + 21^2$ | $5^2 + 18^2 + 22^2$ |
| | 1010212 | $1^2 + 16^2 + 24^2$ | $8^2 + 12^2 + 25^2$ | $6^2 + 11^2 + 26^2$ | $2^2 + 10^2 + 27^2$ | |
| | | $33^2 - 16^2$ | $63^2 - 56^2$ | $417^2 - 416^2$ | $1 \cdot 6! + 4 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 834 | 1 101 000 010 | $2 \cdot 3 \cdot 139$ | $16^2 + 17^2 + 17^2$ | $7^2 + 16^2 + 23^2$ | $4^2 + 17^2 + 23^2$ | $5^2 + 5^2 + 28^2$ |
| | 1010220 | $1^2 + 7^2 + 28^2$ | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3!$ | | |
| 835 | 1 101 000 011 | $5 \cdot 167$ | $13^2 + 15^2 + 21^2$ | $9^2 + 15^2 + 23^2$ | $5^2 + 9^2 + 27^2$ | $86^2 - 81^2$ |
| | 1010221 | $418^2 - 417^2$ | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3! + 1!$ | | |
| 836 | 1 101 000 100 | $2^2 \cdot 11 \cdot 19$ | $16^2 + 16^2 + 18^2$ | $6^2 + 20^2 + 20^2$ | $8^2 + 14^2 + 24^2$ | $2^2 + 16^2 + 24^2$ |
| | 1010222 | $4^2 + 12^2 + 26^2$ | $4^2 + 6^2 + 28^2$ | $30^2 - 8^2$ | $210^2 - 208^2$ | |
| | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | | | |
| 837 | 1 101 000 101 | $3^3 \cdot 31$ | $8^2 + 17^2 + 22^2$ | $6^2 + 15^2 + 24^2$ | $4^2 + 14^2 + 25^2$ | $2^2 + 7^2 + 28^2$ |
| | 1011000 | $29^2 - 2^2$ | $51^2 - 42^2$ | $141^2 - 138^2$ | $419^2 - 418^2$ | |
| | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | | | | |
| 838 | 1 101 000 110 | $2 \cdot 419$ | $15^2 + 17^2 + 18^2$ | $6^2 + 19^2 + 21^2$ | $9^2 + 9^2 + 26^2$ | $3^2 + 10^2 + 27^2$ |
| | 1011001 | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | | | |
| 839 | 1 101 000 111 | prime | $420^2 - 419^2$ | | $1 \cdot 6! + 4 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | |
| | 1011002 | | | | | |
| 840 | 1 101 001 000 | $2^3 \cdot 3 \cdot 5 \cdot 7$ | $10^2 + 16^2 + 22^2$ | $8^2 + 10^2 + 26^2$ | $29^2 - 1^2$ | $31^2 - 11^2$ |
| | 1011010 | $37^2 - 23^2$ | $41^2 - 29^2$ | $47^2 - 37^2$ | $73^2 - 67^2$ | $107^2 - 103^2$ |
| | | $211^2 - 209^2$ | | | | |
| 841 | 1 101 001 001 | 29^2 | $20^2 + 21^2$ | $12^2 + 16^2 + 21^2$ | $11^2 + 12^2 + 24^2$ | $3^2 + 16^2 + 24^2$ |
| | 1011011 | $421^2 - 420^2$ | | $1 \cdot 6! + 1 \cdot 5! + 1!$ | | |
| 842 | 1 101 001 010 | $2 \cdot 421$ | $1^2 + 29^2$ | $15^2 + 16^2 + 19^2$ | $9^2 + 19^2 + 20^2$ | $1^2 + 20^2 + 21^2$ |
| | 1011012 | $12^2 + 13^2 + 23^2$ | $7^2 + 8^2 + 27^2$ | $3^2 + 7^2 + 28^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 2!$ | |
| 843 | 1 101 001 011 | $3 \cdot 281$ | $11^2 + 19^2 + 19^2$ | $5^2 + 17^2 + 23^2$ | $7^2 + 13^2 + 25^2$ | $1^2 + 1^2 + 29^2$ |
| | 1011020 | $142^2 - 139^2$ | $422^2 - 421^2$ | | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 2! + 1!$ | |
| 844 | 1 101 001 100 | $2^2 \cdot 211$ | $14^2 + 18^2 + 18^2$ | $6^2 + 18^2 + 22^2$ | $212^2 - 210^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 2!$ |
| | 1011021 | | | | | |
| 845 | 1 101 001 101 | $5 \cdot 13^2$ | $19^2 + 22^2$ | $13^2 + 26^2$ | $2^2 + 29^2$ | $11^2 + 18^2 + 20^2$ |
| | 1011022 | $10^2 + 13^2 + 24^2$ | $5^2 + 12^2 + 26^2$ | $4^2 + 10^2 + 27^2$ | $5^2 + 6^2 + 28^2$ | |
| | | $39^2 - 26^2$ | $87^2 - 82^2$ | $423^2 - 422^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 2! + 1!$ | |
| 846 | 1 101 001 110 | $2 \cdot 3^2 \cdot 47$ | $14^2 + 17^2 + 19^2$ | $9^2 + 18^2 + 21^2$ | $1^2 + 19^2 + 22^2$ | $11^2 + 14^2 + 23^2$ |
| | 1011100 | $10^2 + 11^2 + 25^2$ | $5^2 + 14^2 + 25^2$ | $7^2 + 11^2 + 26^2$ | $1^2 + 13^2 + 26^2$ | |
| | | $6^2 + 9^2 + 27^2$ | $1^2 + 2^2 + 29^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3!$ | | |
| 847 | 1 101 001 111 | $7 \cdot 11^2$ | $44^2 - 33^2$ | $64^2 - 57^2$ | $424^2 - 423^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3! + 1!$ |
| | 1011101 | r(29) | | | | |

(continued)

Table III (continued)

| | | | | | | | |
|-----|---------------|---|--|---|--|----------------------|---------------------|
| 848 | 1 101 010 000 | $2^{4 \cdot 53}$ | $8^2 + 28^2$ | $4^2 + 16^2 + 24^2$ | $57^2 - 49^2$ | $108^2 - 104^2$ | $213^2 - 211^2$ |
| | 1011102 | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3! + 1 \cdot 2!$ | | | | | |
| 849 | 1 101 010 001 | $3 \cdot 283$ | $7^2 + 20^2 + 20^2$ | $13^2 + 14^2 + 22^2$ | $2^2 + 19^2 + 22^2$ | $8^2 + 16^2 + 23^2$ | |
| | 1011110 | $2^2 + 13^2 + 26^2$ | $4^2 + 7^2 + 28^2$ | $1^2 + 8^2 + 28^2$ | $2^2 + 2^2 + 29^2$ | $143^2 - 140^2$ | |
| | | $425^2 - 424^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | | | |
| 850 | 1 101 010 010 | $2 \cdot 5^2 \cdot 17$ | $15^2 + 25^2$ | $11^2 + 27^2$ | $3^2 + 29^2$ | $15^2 + 15^2 + 20^2$ | $3^2 + 20^2 + 21^2$ |
| | 1011111 | $7^2 + 15^2 + 24^2$ | $9^2 + 12^2 + 25^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3! + 2 \cdot 2!$ | | | |
| 851 | 1 101 010 011 | $23 \cdot 37$ | $11^2 + 17^2 + 21^2$ | $7^2 + 19^2 + 21^2$ | $1^2 + 15^2 + 25^2$ | $1^2 + 11^2 + 27^2$ | |
| | 1011112 | $1^2 + 3^2 + 29^2$ | $36^2 - 7^2$ | $426^2 - 425^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 852 | 1 101 010 100 | $2^2 \cdot 3 \cdot 71$ | $14^2 + 16^2 + 20^2$ | $2^2 + 8^2 + 28^2$ | $74^2 - 68^2$ | $214^2 - 212^2$ | |
| | 1011120 | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3!$ | | | | | |
| 853 | 1 101 010 101 | prime | $18^2 + 23^2$ | $12^2 + 15^2 + 22^2$ | $9^2 + 14^2 + 24^2$ | $5^3 + 6^3 + 8^3$ | |
| | 1011121 | $427^2 - 426^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3! + 1!$ | | | | |
| 854 | 1 101 010 110 | $2 \cdot 7 \cdot 61$ | $13^2 + 18^2 + 19^2$ | $9^2 + 17^2 + 22^2$ | $3^2 + 19^2 + 22^2$ | $10^2 + 15^2 + 23^2$ | |
| | 1011122 | $6^2 + 17^2 + 23^2$ | $1^2 + 18^2 + 23^2$ | $2^2 + 15^2 + 25^2$ | $3^2 + 13^2 + 26^2$ | | |
| | | $5^2 + 10^2 + 27^2$ | $2^2 + 11^2 + 27^2$ | $2^2 + 3^2 + 29^2$ | $5^3 + 9^3$ | | |
| | | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2!$ | | | | | |
| 855 | 1 101 010 111 | $3^2 \cdot 5 \cdot 19$ | $7^3 + 8^3$ | $1^3 + 5^3 + 9^3$ | $32^2 - 13^2$ | $36^2 - 21^2$ | $52^2 - 43^2$ |
| | 1011200 | $88^2 - 83^2$ | $144^2 - 141^2$ | $428^2 - 427^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 856 | 1 101 011 000 | $2^3 \cdot 107$ | $6^2 + 12^2 + 26^2$ | $6^2 + 6^2 + 28^2$ | $1^3 + 7^3 + 8^3$ | $109^2 - 105^2$ | |
| | 1011201 | $215^2 - 213^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2!$ | | | | |
| 857 | 1 101 011 001 | prime | $4^2 + 29^2$ | $4^2 + 20^2 + 21^2$ | $7^2 + 18^2 + 22^2$ | $2^2 + 18^2 + 23^2$ | |
| | 1011202 | $5^2 + 16^2 + 24^2$ | $6^2 + 14^2 + 25^2$ | $9^2 + 10^2 + 26^2$ | $8^2 + 8^2 + 27^2$ | $3^2 + 8^2 + 28^2$ | |
| | | $4^3 + 4^3 + 9^3$ | $2^6 + 2^6 + 3^6$ | $429^2 - 428^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 858 | 1 101 011 010 | $2 \cdot 3 \cdot 11 \cdot 13$ | $13^2 + 17^2 + 20^2$ | $8^2 + 13^2 + 25^2$ | $5^2 + 7^2 + 28^2$ | $1^2 + 4^2 + 29^2$ | |
| | 1011210 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3!$ | | | | | |
| 859 | 1 101 011 011 | prime | $3^2 + 15^2 + 25^2$ | $7^2 + 9^2 + 27^2$ | $3^2 + 11^2 + 27^2$ | $3^2 + 3^2 + 29^2$ | |
| | 1011211 | $430^2 - 429^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3! + 1!$ | | | | |
| 860 | 1 101 011 100 | $2^2 \cdot 5 \cdot 43$ | $48^2 - 38^2$ | $216^2 - 214^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| | 1011212 | | | | | | |
| 861 | 1 101 011 101 | $3 \cdot 7 \cdot 41$ | $\sum_{n=1}^{41} n$ | $10^2 + 19^2 + 20^2$ | $11^2 + 16^2 + 22^2$ | $4^2 + 19^2 + 22^2$ | |
| | 1011220 | $8^2 + 11^2 + 26^2$ | $4^2 + 13^2 + 26^2$ | $2^2 + 4^2 + 29^2$ | $31^2 - 10^2$ | $65^2 - 58^2$ | |
| | | $145^2 - 142^2$ | $431^2 - 430^2$ | $(\frac{42}{2})$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 862 | 1 101 011 110 | $2 \cdot 431$ | $14^2 + 15^2 + 21^2$ | $3^2 + 18^2 + 23^2$ | $2^3 + 5^3 + 9^3$ | | |
| | 1011221 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ | | | | | |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|--|
| 863 | 1 101 011 111 1011222 | prime $2^3 + 7^3 + 8^3$ $432^2 - 431^2$ $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 864 | 1 101 100 000 1012000 | $2^5 \cdot 3^3$ $8^2 + 20^2 + 20^2$ $12^2 + 12^2 + 24^2$ $4^2 + 8^2 + 28^2$ $30^2 - 6^2$ $33^2 - 15^2$ $35^2 - 19^2$ $42^2 - 30^2$ $58^2 - 50^2$ $75^2 - 69^2$ $110^2 - 106^2$ $217^2 - 215^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4!$ q(38) |
| 865 | 1 101 100 001 1012001 | $5 \cdot 173$ $17^2 + 24^2$ $9^2 + 28^2$ $10^2 + 18^2 + 21^2$ $8^2 + 15^2 + 24^2$ $6^2 + 10^2 + 27^2$ $89^2 - 84^2$ $433^2 - 432^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1!$ |
| 866 | 1 101 100 010 1012002 | $2 \cdot 433$ $5^2 + 29^2$ $12^2 + 19^2 + 19^2$ $13^2 + 16^2 + 21^2$ $8^2 + 19^2 + 21^2$ $5^2 + 20^2 + 21^2$ $9^2 + 16^2 + 23^2$ $11^2 + 13^2 + 24^2$ $1^2 + 17^2 + 24^2$ $4^2 + 15^2 + 25^2$ $4^2 + 11^2 + 27^2$ $1^2 + 9^2 + 28^2$ $3^2 + 4^2 + 29^2$ $13^3 - 11^3$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ |
| 867 | 1 101 100 011 1012010 | $3 \cdot 17^2$ $17^2 + 17^2 + 17^2$ $13^2 + 13^2 + 23^2$ $7^2 + 17^2 + 23^2$ $11^2 + 11^2 + 25^2$ $1^2 + 5^2 + 29^2$ $34^2 - 17^2$ $146^2 - 143^2$ $434^2 - 433^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ |
| 868 | 1 101 100 100 1012011 | $2^2 \cdot 7 \cdot 31$ $12^2 + 18^2 + 20^2$ $6^2 + 16^2 + 24^2$ $38^2 - 24^2$ $218^2 - 216^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ |
| 869 | 1 101 100 101 1012012 | $11 \cdot 79$ $16^2 + 17^2 + 18^2$ $12^2 + 14^2 + 23^2$ $4^2 + 18^2 + 23^2$ $2^2 + 17^2 + 24^2$ $10^2 + 12^2 + 25^2$ $7^2 + 12^2 + 26^2$ $6^2 + 7^2 + 28^2$ $2^2 + 9^2 + 28^2$ $45^2 - 34^2$ $435^2 - 434^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ |
| 870 | 1 101 100 110 1012020 | $2 \cdot 3 \cdot 5 \cdot 29$ $5^2 + 19^2 + 22^2$ $7^2 + 14^2 + 25^2$ $5^2 + 13^2 + 26^2$ $2^2 + 5^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ S ₁₀ ⁽⁸⁾ |
| 871 | 1 101 100 111 1012021 | $13 \cdot 67$ $40^2 - 27^2$ $436^2 - 435^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ |
| 872 | 1 101 101 000 1012022 | $2^3 \cdot 109$ $14^2 + 26^2$ $8^2 + 18^2 + 22^2$ $10^2 + 14^2 + 24^2$ $111^2 - 107^2$ $219^2 - 217^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 873 | 1 101 101 001 1012100 | $3^2 \cdot 97$ $12^2 + 27^2$ $15^2 + 18^2 + 18^2$ $16^2 + 16^2 + 19^2$ $10^2 + 17^2 + 22^2$ $1^2 + 14^2 + 26^2$ $5^2 + 8^2 + 28^2$ $4^2 + 4^2 + 29^2$ $53^2 - 44^2$ $147^2 - 144^2$ $437^2 - 436^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 874 | 1 101 101 010 1012101 | $2 \cdot 19 \cdot 23$ $12^2 + 17^2 + 21^2$ $3^2 + 17^2 + 24^2$ $8^2 + 9^2 + 27^2$ $1^2 + 12^2 + 27^2$ $3^2 + 9^2 + 28^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 875 | 1 101 101 011 1012102 | $5^3 \cdot 7$ $15^2 + 17^2 + 19^2$ $11^2 + 15^2 + 23^2$ $9^2 + 13^2 + 25^2$ $5^2 + 15^2 + 25^2$ $5^2 + 11^2 + 27^2$ $3^2 + 5^2 + 29^2$ $30^2 - 5^2$ $66^2 - 59^2$ $90^2 - 85^2$ $438^2 - 437^2$ $10^3 - 5^3$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |

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Table III (continued)

| | | | | | | |
|-----|--------------------------|--|---|--|---|--|
| 876 | 1 101 101 100 1012110 | $2^2 \cdot 3 \cdot 73$ $220^2 - 218^2$ | $14^2 + 14^2 + 22^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | $10^2 + 10^2 + 26^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | $2^2 + 14^2 + 26^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | $76^2 - 70^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ |
| 877 | 1 101 101 101 1012111 | prime $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $6^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $6^2 + 20^2 + 21^2$ a_7 | $2^2 + 12^2 + 27^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | $439^2 - 438^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ |
| 878 | 1 101 101 110 1012112 | $2 \cdot 439$ $1^2 + 6^2 + 29^2$ | $13^2 + 15^2 + 22^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $5^2 + 18^2 + 23^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $9^2 + 11^2 + 26^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ | $7^2 + 10^2 + 27^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 879 | 1 101 101 111 1012120 | $3 \cdot 293$ | $148^2 - 145^2$ | $440^2 - 439^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 880 | 1 101 110 000 1012121 | $2^4 \cdot 5 \cdot 11$ $221^2 - 219^2$ | $31^2 - 9^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $32^2 - 12^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $49^2 - 39^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | $59^2 - 51^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ |
| 881 | 1 101 110 001 1012122 | prime $6^2 + 19^2 + 22^2$ $3^2 + 14^2 + 26^2$ | $16^2 + 25^2$ $7^2 + 16^2 + 24^2$ $4^2 + 17^2 + 24^2$ $4^2 + 9^2 + 28^2$ | $14^2 + 18^2 + 19^2$ $7^2 + 16^2 + 24^2$ $2^2 + 6^2 + 29^2$ | $15^2 + 16^2 + 20^2$ $6^2 + 13^2 + 26^2$ $3^3 + 5^3 + 9^3$ | $9^2 + 20^2 + 20^2$ $4^4 + 5^4$ |
| 882 | 1 101 110 010 1012200 | $2 \cdot 3^2 \cdot 7^2$ $1^2 + 16^2 + 25^2$ $3^3 + 7^3 + 8^3$ | $21^2 + 21^2$ $3^2 + 12^2 + 27^2$ $1^4 + 4^4 + 5^4$ | $11^2 + 19^2 + 20^2$ $7^2 + 7^2 + 28^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ | $8^2 + 17^2 + 23^2$ $4^2 + 5^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ | $9^2 + 15^2 + 24^2$ $4^2 + 5^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3!$ |
| 883 | 1 101 110 011 1012201 | prime $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $9^2 + 19^2 + 21^2$ $1^2 + 21^2 + 21^2$ | $1^2 + 21^2 + 21^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1!$ | $442^2 - 441^2$ | |
| 884 | 1 101 110 100 1012202 | $2^2 \cdot 13 \cdot 17$ $6^2 + 8^2 + 28^2$ | $20^2 + 22^2$ $30^2 - 4^2$ | $10^2 + 28^2$ $222^2 - 220^2$ | $12^2 + 16^2 + 22^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $8^2 + 12^2 + 26^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 885 | 1 101 110 101 1012210 | $3 \cdot 5 \cdot 59$ $2^2 + 16^2 + 25^2$ $443^2 - 442^2$ | $14^2 + 17^2 + 20^2$ $1^2 + 10^2 + 28^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $1^2 + 20^2 + 22^2$ $37^2 - 22^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $10^2 + 16^2 + 23^2$ $91^2 - 86^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | $8^2 + 14^2 + 25^2$ $149^2 - 146^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ |
| 886 | 1 101 110 110 1012211 | $2 \cdot 443$ $3^2 + 6^2 + 29^2$ | $11^2 + 18^2 + 21^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $2^2 + 21^2 + 21^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $6^2 + 15^2 + 25^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | $6^2 + 11^2 + 27^2$ $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |
| 887 | 1 101 110 111 1012212 | prime $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | $444^2 - 443^2$ | $1 \cdot 6! + 1 \cdot 5! + 1 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 888 | 1 101 111 000 1012220 | $2^3 \cdot 3 \cdot 37$ $77^2 - 71^2$ | $2^2 + 20^2 + 22^2$ $113^2 - 109^2$ | $4^2 + 14^2 + 26^2$ $223^2 - 221^2$ | $2^2 + 10^2 + 28^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4!$ | $43^2 - 31^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4!$ |
| 889 | 1 101 111 001 1012221 | $7 \cdot 127$ $67^2 - 60^2$ | $9^2 + 18^2 + 22^2$ $445^2 - 444^2$ | $6^2 + 18^2 + 23^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 1!$ | $12^2 + 13^2 + 24^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 1!$ | $4^2 + 12^2 + 27^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 1!$ |
| 890 | 1 101 111 010 1012222 | $2 \cdot 5 \cdot 89$ $11^2 + 12^2 + 25^2$ | $19^2 + 23^2$ $3^2 + 16^2 + 25^2$ | $7^2 + 29^2$ $5^2 + 9^2 + 28^2$ | $7^2 + 20^2 + 21^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 1 \cdot 2!$ | $5^2 + 17^2 + 24^2$ $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 1 \cdot 2!$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|---|--|--|--|---|
| 891 | 1 101 111 011 | $3^4 \cdot 11$ | $13^2 + 19^2 + 19^2$ | $15^2 + 15^2 + 21^2$ | $3^2 + 21^2 + 21^2$ | $1^2 + 19^2 + 23^2$ |
| | 1020000 | $9^2 + 9^2 + 27^2$ | $5^2 + 5^2 + 29^2$ | $1^2 + 7^2 + 29^2$ | $30^2 - 3^2$ | $46^2 - 35^2$ |
| 892 | 1 101 111 100 | $54^2 - 45^2$ | $150^2 - 147^2$ | $446^2 - 445^2$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 21 + 11$ | |
| | 1020001 | $2^2 \cdot 223$ | $224^2 - 222^2$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 21$ | | |
| 893 | 1 101 111 101 | $19 \cdot 47$ | $13^2 + 18^2 + 20^2$ | $14^2 + 16^2 + 21^2$ | $3^2 + 20^2 + 22^2$ | $11^2 + 14^2 + 24^2$ |
| | 1020002 | $8^2 + 10^2 + 27^2$ | $3^2 + 10^2 + 28^2$ | $4^2 + 6^2 + 29^2$ | $33^2 - 14^2$ | $447^2 - 446^2$ |
| 894 | 1 101 111 110 | $2 \cdot 3 \cdot 149$ | $11^2 + 17^2 + 22^2$ | $7^2 + 19^2 + 22^2$ | $13^2 + 14^2 + 23^2$ | $2^2 + 19^2 + 23^2$ |
| | 1020010 | $10^2 + 13^2 + 25^2$ | $7^2 + 13^2 + 26^2$ | $2^2 + 7^2 + 29^2$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 31 + 11$ | |
| 895 | 1 101 111 111 | $5 \cdot 179$ | $92^2 - 87^2$ | $448^2 - 447^2$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 31 + 11$ | |
| | 1020011 | | | | | |
| 896 | 1 110 000 000 | $2^7 \cdot 7$ | $8^2 + 16^2 + 24^2$ | $30^2 - 2^2$ | $36^2 - 20^2$ | $39^2 - 25^2$ |
| | 1020012 | $114^2 - 110^2$ | $225^2 - 223^2$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 31 + 1 \cdot 21$ | | |
| 897 | 1 110 000 001 | $3 \cdot 13 \cdot 23$ | $4^2 + 16^2 + 25^2$ | $10^2 + 11^2 + 26^2$ | $5^2 + 14^2 + 26^2$ | $7^2 + 8^2 + 28^2$ |
| | 1020020 | $2^4 + 4^4 + 5^4$ | $31^2 - 8^2$ | $41^2 - 28^2$ | $151^2 - 148^2$ | $449^2 - 448^2$ |
| 898 | 1 110 000 010 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 31 + 1 \cdot 21$ | $13^2 + 27^2$ | $4^2 + 21^2 + 21^2$ | $12^2 + 15^2 + 23^2$ | $5^2 + 12^2 + 27^2$ |
| | 1020021 | | | | | |
| 899 | 1 110 000 011 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 1 \cdot 31 + 2 \cdot 21 + 11$ | $29 \cdot 31$ | $13^2 + 17^2 + 21^2$ | $9^2 + 17^2 + 23^2$ | $3^2 + 19^2 + 23^2$ |
| | 1020022 | | $7^2 + 11^2 + 27^2$ | $1^2 + 13^2 + 27^2$ | $3^2 + 7^2 + 29^2$ | $7^2 + 15^2 + 25^2$ |
| 900 | 1 110 000 100 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ | $34^2 - 16^2$ | $50^2 - 40^2$ | $78^2 - 72^2$ | $226^2 - 224^2$ |
| | 1020100 | | | | | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31$ |
| 901 | 1 110 000 101 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ | $17 \cdot 53$ | $15^2 + 26^2$ | $1^2 + 30^2$ | $10^2 + 15^2 + 24^2$ |
| | 1020101 | | $9^2 + 12^2 + 26^2$ | $6^2 + 9^2 + 28^2$ | $35^2 - 18^2$ | $451^2 - 450^2$ |
| 902 | 1 110 000 110 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ | $2 \cdot 11 \cdot 41$ | $17^2 + 17^2 + 18^2$ | $10^2 + 19^2 + 21^2$ | $7^2 + 18^2 + 23^2$ |
| | 1020102 | | $1^2 + 15^2 + 26^2$ | $2^2 + 13^2 + 27^2$ | $5^2 + 6^2 + 29^2$ | $1^2 + 1^2 + 30^2$ |
| 903 | 1 110 000 111 | $6^3 + 7^3 + 7^3$ | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ | $\frac{42}{1} n$ | $32^2 - 11^2$ | $68^2 - 61^2$ |
| | 1020110 | | | | | $152^2 - 149^2$ |
| 904 | 1 110 001 000 | $1 \cdot 61 + 1 \cdot 51 + 2 \cdot 41 + 2 \cdot 31 + 2 \cdot 21$ | $2^3 \cdot 113$ | $2^2 + 30^2$ | $16^2 + 18^2 + 18^2$ | $2^2 + 18^2 + 24^2$ |
| | 1020111 | | | | | $115^2 - 111^2$ |
| | | | | | | $227^2 - 225^2$ |

(continued)

Table III (continued)

| | | | | | | | | |
|-----|---|--|----------------------|---|--|--|---------------|--|
| 905 | 1 110 001 001 | $5 \cdot 181$ | $11^2 + 28^2$ | $8^2 + 29^2$ | $12^2 + 19^2 + 20^2$ | $8^2 + 20^2 + 21^2$ | | |
| | 1020112 | $14^2 + 15^2 + 22^2$ | $2^2 + 15^2 + 26^2$ | $1^2 + 2^2 + 30^2$ | $93^2 - 88^2$ | $453^2 - 452^2$ | | |
| | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 2 \cdot 3! + 2 \cdot 2! + 1!$ | | | | | | | |
| 906 | 1 110 001 010 | $2 \cdot 3 \cdot 151$ | $16^2 + 17^2 + 19^2$ | $11^2 + 16^2 + 23^2$ | $4^2 + 19^2 + 23^2$ | $5^2 + 16^2 + 25^2$ | | |
| | 1020120 | $1^2 + 11^2 + 28^2$ | $4^2 + 7^2 + 29^2$ | $1^2 + 8^2 + 29^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3!$ | | | |
| 907 | 1 110 001 011 | prime | $5^2 + 21^2 + 21^2$ | $3^2 + 13^2 + 27^2$ | $454^2 - 453^2$ | | | |
| | 1020121 | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1!$ | | | | | | |
| 908 | 1 110 001 100 | $2^2 \cdot 227$ | $10^2 + 18^2 + 22^2$ | $6^2 + 14^2 + 26^2$ | $2^2 + 2^2 + 30^2$ | $228^2 - 226^2$ | | |
| | 1020122 | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | | | | | |
| 909 | 1 110 001 101 | $3^2 \cdot 101$ | $3^2 + 30^2$ | $12^2 + 18^2 + 21^2$ | $13^2 + 16^2 + 22^2$ | $8^2 + 19^2 + 22^2$ | | |
| | 1020200 | $5^2 + 20^2 + 22^2$ | $3^2 + 18^2 + 24^2$ | $8^2 + 13^2 + 26^2$ | $6^2 + 12^2 + 27^2$ | $5^2 + 10^2 + 28^2$ | | |
| | $2^2 + 11^2 + 28^2$ | | | | | | | |
| | $2^2 + 8^2 + 29^2$ | | | | | | | |
| 910 | 1 110 001 110 | $2 \cdot 5 \cdot 7 \cdot 13$ | $15^2 + 18^2 + 19^2$ | $3^2 + 15^2 + 26^2$ | $9^2 + 10^2 + 27^2$ | $1^2 + 3^2 + 30^2$ | | |
| | 1020201 | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ | | | | | | |
| | 1 110 001 111 | prime, | $456^2 - 455^2$ | $1 \cdot 6! + 1 \cdot 5! + 2 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | | | |
| 911 | 1020202 | | | | | | | |
| | 1 110 010 000 | $2^4 \cdot 3 \cdot 19$ | $16^2 + 16^2 + 20^2$ | $8^2 + 8^2 + 28^2$ | $31^2 - 7^2$ | $44^2 - 32^2$ | $61^2 - 53^2$ | |
| 912 | 1020210 | $79^2 - 73^2$ | $116^2 - 112^2$ | $229^2 - 227^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4!$ | | | |
| | 1 110 010 001 | $11 \cdot 83$ | $9^2 + 16^2 + 24^2$ | $12^2 + 12^2 + 25^2$ | $6^2 + 6^2 + 29^2$ | $2^2 + 3^2 + 30^2$ | | |
| 913 | 1020211 | $47^2 - 36^2$ | $457^2 - 456^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1!$ | | | | |
| | 1 110 010 010 | $2 \cdot 457$ | $17^2 + 25^2$ | $15^2 + 17^2 + 20^2$ | $13^2 + 13^2 + 24^2$ | $7^2 + 17^2 + 24^2$ | | |
| 914 | 1020212 | $8^2 + 15^2 + 25^2$ | $8^2 + 11^2 + 27^2$ | $4^2 + 13^2 + 27^2$ | $7^2 + 9^2 + 28^2$ | $3^2 + 11^2 + 28^2$ | | |
| | $3^2 + 8^2 + 29^2$ | | | | | | | |
| 915 | 1 110 010 011 | $3 \cdot 5 \cdot 61$ | $5^2 + 19^2 + 23^2$ | $11^2 + 13^2 + 25^2$ | $1^2 + 17^2 + 25^2$ | $5^2 + 7^2 + 29^2$ | | |
| | 1020220 | $38^2 - 23^2$ | $94^2 - 89^2$ | $154^2 - 151^2$ | $458^2 - 457^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 2! + 1!$ | | |
| 916 | 1 110 010 100 | $2^2 \cdot 229$ | $4^2 + 30^2$ | $12^2 + 14^2 + 24^2$ | $4^2 + 18^2 + 24^2$ | $230^2 - 228^2$ | | |
| | 1020221 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 2!$ | | | | | | |
| 917 | 1 110 010 101 | $7 \cdot 131$ | $12^2 + 17^2 + 22^2$ | $8^2 + 18^2 + 23^2$ | $6^2 + 16^2 + 25^2$ | $4^2 + 15^2 + 26^2$ | | |
| | 1020222 | $1^2 + 4^2 + 30^2$ | $69^2 - 62^2$ | $459^2 - 458^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 2! + 1!$ | | | |
| 918 | 1 110 010 110 | $2 \cdot 3^3 \cdot 17$ | $14^2 + 19^2 + 19^2$ | $6^2 + 21^2 + 21^2$ | $10^2 + 17^2 + 23^2$ | $2^2 + 17^2 + 25^2$ | | |
| | 1021000 | $11^2 + 11^2 + 26^2$ | $3^2 + 3^2 + 30^2$ | $4^3 + 5^3 + 9^3$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3!$ | | | |
| 919 | 1 110 010 111 | prime | $4^3 + 7^3 + 8^3$ | $460^2 - 459^2$ | $18^3 - 17^3$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| | 1021001 | | | | | | | |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|--|---|--|---|---|
| 920 | 1 110 011 000 | $2^3 \cdot 5 \cdot 23$ | $14^2 + 18^2 + 20^2$ | $6^2 + 20^2 + 22^2$ | $10^2 + 12^2 + 26^2$ | $6^2 + 10^2 + 28^2$ |
| | 1021002 | $2^2 + 4^2 + 30^2$ | $33^2 - 13^2$ | $51^2 - 41^2$ | $117^2 - 113^2$ | $231^2 - 229^2$ |
| 921 | 1 110 011 001 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | | | | |
| | | $3 \cdot 307$ | $11^2 + 20^2 + 20^2$ | $14^2 + 14^2 + 23^2$ | $10^2 + 14^2 + 25^2$ | $7^2 + 14^2 + 26^2$ |
| | | $4^2 + 11^2 + 28^2$ | $4^2 + 8^2 + 29^2$ | $155^2 - 152^2$ | $461^2 - 460^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 922 | 1 110 011 010 | $2 \cdot 461$ | $9^2 + 29^2$ | $15^2 + 16^2 + 21^2$ | $9^2 + 20^2 + 21^2$ | $11^2 + 15^2 + 24^2$ |
| | | $7^2 + 12^2 + 27^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | | | |
| 923 | 1 110 011 011 | $13 \cdot 71$ | $11^2 + 19^2 + 21^2$ | $13^2 + 15^2 + 23^2$ | $3^2 + 17^2 + 25^2$ | $5^2 + 13^2 + 27^2$ |
| | | $1^2 + 9^2 + 29^2$ | $42^2 - 29^2$ | $462^2 - 461^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | |
| 924 | 1 110 011 100 | $2^2 \cdot 3 \cdot 7 \cdot 11$ | $32^2 - 10^2$ | $40^2 - 26^2$ | $80^2 - 74^2$ | $232^2 - 230^2$ |
| | | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3!$ | | | | $(\frac{12}{6})$ |
| 925 | 1 110 011 101 | $5^2 \cdot 37$ | $21^2 + 22^2$ | $14^2 + 27^2$ | $5^2 + 30^2$ | $5^2 + 18^2 + 24^2$ |
| | | $31^2 - 6^2$ | $95^2 - 90^2$ | $463^2 - 462^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1!$ | |
| 926 | 1 110 011 110 | $2 \cdot 463$ | $14^2 + 17^2 + 21^2$ | $9^2 + 19^2 + 22^2$ | $1^2 + 21^2 + 22^2$ | $6^2 + 19^2 + 23^2$ |
| | | $9^2 + 13^2 + 26^2$ | $5^2 + 15^2 + 26^2$ | $1^2 + 14^2 + 27^2$ | $6^2 + 7^2 + 29^2$ | $2^2 + 9^2 + 29^2$ |
| 927 | 1 110 011 111 | $3^2 \cdot 103$ | $56^2 - 47^2$ | $156^2 - 153^2$ | $464^2 - 463^2$ | |
| | | 1021100 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | | |
| 928 | 1 110 100 000 | $2^5 \cdot 29$ | $12^2 + 28^2$ | $37^2 - 21^2$ | $62^2 - 54^2$ | $118^2 - 114^2$ |
| | | 1021101 | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | | | $233^2 - 231^2$ |
| 929 | 1 110 100 001 | prime | $20^2 + 23^2$ | $11^2 + 18^2 + 22^2$ | $2^2 + 21^2 + 22^2$ | $12^2 + 16^2 + 23^2$ |
| | | 1021102 | $8^2 + 17^2 + 24^2$ | $10^2 + 10^2 + 27^2$ | $2^2 + 14^2 + 27^2$ | $8^2 + 9^2 + 28^2$ |
| 930 | 1 110 100 010 | $2 \cdot 3 \cdot 5 \cdot 31$ | $13^2 + 19^2 + 20^2$ | $1^2 + 20^2 + 23^2$ | $7^2 + 16^2 + 25^2$ | $4^2 + 17^2 + 25^2$ |
| | | 1021110 | $5^2 + 11^2 + 28^2$ | $5^2 + 8^2 + 29^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3!$ | |
| 931 | 1 110 100 011 | $7^2 \cdot 19$ | $7^2 + 21^2 + 21^2$ | $9^2 + 15^2 + 25^2$ | $9^2 + 11^2 + 27^2$ | $3^2 + 9^2 + 29^2$ |
| | | 1021111 | $34^2 - 15^2$ | $70^2 - 63^2$ | $466^2 - 465^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1!$ |
| 932 | 1 110 100 100 | $2^2 \cdot 233$ | $16^2 + 26^2$ | $10^2 + 16^2 + 24^2$ | $2^2 + 12^2 + 28^2$ | $4^2 + 4^2 + 30^2$ |
| | | 1021112 | $234^2 - 232^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2!$ | | |
| 933 | 1 110 100 101 | $3 \cdot 311$ | $7^2 + 20^2 + 22^2$ | $2^2 + 20^2 + 23^2$ | $1^2 + 16^2 + 26^2$ | $7^2 + 10^2 + 28^2$ |
| | | 1021120 | $157^2 - 154^2$ | $467^2 - 466^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | |
| 934 | 1 110 100 110 | $2 \cdot 467$ | $13^2 + 18^2 + 21^2$ | $15^2 + 15^2 + 22^2$ | $3^2 + 21^2 + 22^2$ | $9^2 + 18^2 + 23^2$ |
| | | 1021121 | $6^2 + 13^2 + 27^2$ | $3^2 + 14^2 + 27^2$ | $3^2 + 5^2 + 30^2$ | $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2!$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|--|
| 935 | 1 110 100 111 1021122 | $5 \cdot 11 \cdot 17$ $36^2 - 19^2$ $48^2 - 37^2$ $96^2 - 91^2$ $468^2 - 467^2$ $1 \cdot 6! + 1 \cdot 5! + 3 \cdot 4! + 3 \cdot 3! + 2 \cdot 2! + 1!$ |
| 936 | 1 110 101 000 1021200 | $2^3 \cdot 3^2 \cdot 13$ $6^2 + 30^2$ $14^2 + 16^2 + 22^2$ $6^2 + 18^2 + 24^2$ $8^2 + 14^2 + 26^2$ $2^2 + 16^2 + 26^2$ $31^2 - 5^2$ $35^2 - 17^2$ $45^2 - 33^2$ $81^2 - 75^2$ $119^2 - 115^2$ $235^2 - 233^2$ $10^3 - 4^3$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4!$ |
| 937 | 1 110 101 001 1021201 | prime $19^2 + 24^2$ $17^2 + 18^2 + 18^2$ $6^2 + 15^2 + 26^2$ $8^2 + 12^2 + 27^2$ $3^2 + 12^2 + 28^2$ $1^2 + 6^2 + 30^2$ $469^2 - 468^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1!$ |
| 938 | 1 110 101 010 1021202 | $2 \cdot 7 \cdot 67$ $3^2 + 20^2 + 23^2$ $1^2 + 19^2 + 24^2$ $12^2 + 13^2 + 25^2$ $4^2 + 9^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 2!$ |
| 939 | 1 110 101 011 1021210 | $3 \cdot 313$ $17^2 + 17^2 + 19^2$ $11^2 + 17^2 + 23^2$ $7^2 + 19^2 + 23^2$ $5^2 + 17^2 + 25^2$ $7^2 + 7^2 + 29^2$ $158^2 - 155^2$ $470^2 - 469^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 2! + 1!$ |
| 940 | 1 110 101 100 1021211 | $2^2 \cdot 5 \cdot 47$ $2^2 + 6^2 + 30^2$ $52^2 - 42^2$ $236^2 - 234^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 2 \cdot 2!$ |
| 941 | 1 110 101 101 1021212 | prime $10^2 + 29^2$ $16^2 + 18^2 + 19^2$ $10^2 + 20^2 + 21^2$ $4^2 + 21^2 + 22^2$ $13^2 + 14^2 + 24^2$ $2^2 + 19^2 + 24^2$ $11^2 + 12^2 + 26^2$ $3^2 + 16^2 + 26^2$ $4^2 + 14^2 + 27^2$ $6^2 + 11^2 + 28^2$ $6^2 + 8^2 + 29^2$ $4^2 + 5^2 + 30^2$ $471^2 - 470^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 2 \cdot 2! + 1!$ |
| 942 | 1 110 101 110 1021220 | $2 \cdot 3 \cdot 157$ $13^2 + 17^2 + 22^2$ $11^2 + 14^2 + 25^2$ $1^2 + 10^2 + 29^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3!$ |
| 943 | 1 110 101 111 1021221 | $23 \cdot 41$ $32^2 - 9^2$ $472^2 - 471^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1!$ |
| 944 | 1 110 110 000 1021222 | $2^4 \cdot 59$ $12^2 + 20^2 + 20^2$ $4^2 + 12^2 + 28^2$ $6^3 + 6^3 + 8^3$ $63^2 - 55^2$ $120^2 - 116^2$ $237^2 - 235^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ |
| 945 | 1 110 110 001 1022000 | $3^3 \cdot 5 \cdot 7$ $1 \cdot 3 \cdot 5 \cdot 7 \cdot 9$ $16^2 + 17^2 + 20^2$ $10^2 + 19^2 + 22^2$ $4^2 + 20^2 + 23^2$ $12^2 + 15^2 + 24^2$ $8^2 + 16^2 + 25^2$ $10^2 + 13^2 + 26^2$ $2^2 + 10^2 + 29^2$ $3^2 + 6^2 + 30^2$ $6^3 + 9^3$ $31^2 - 4^2$ $33^2 - 12^2$ $39^2 - 24^2$ $57^2 - 48^2$ $71^2 - 64^2$ $97^2 - 92^2$ $159^2 - 156^2$ $473^2 - 472^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ |
| 946 | 1 110 110 010 1022001 | $2 \cdot 11 \cdot 43$ $\frac{43}{1} n$ $12^2 + 19^2 + 21^2$ $8^2 + 21^2 + 21^2$ $9^2 + 17^2 + 24^2$ $3^2 + 19^2 + 24^2$ $9^2 + 9^2 + 28^2$ $1^3 + 6^3 + 9^3$ $(\frac{44}{2})$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ |
| 947 | 1 110 110 011 1022002 | prime $15^2 + 19^2 + 19^2$ $7^2 + 13^2 + 27^2$ $5^2 + 9^2 + 29^2$ $474^2 - 473^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ |
| 948 | 1 110 110 100 1022010 | $2^2 \cdot 3 \cdot 79$ $8^2 + 20^2 + 22^2$ $4^2 + 16^2 + 26^2$ $8^2 + 10^2 + 28^2$ $82^2 - 76^2$ $238^2 - 236^2$ $1 \cdot 6! + 1 \cdot 5! + 4 \cdot 4! + 2 \cdot 3!$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|--|
| 949 | 1 110 110 101 1022011 | $13 \cdot 73$ $18^2 + 25^2$ $7^2 + 30^2$ $15^2 + 18^2 + 20^2$ $7^2 + 18^2 + 24^2$ $43^2 - 30^2$ $475^2 - 474^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 2 \cdot 31 + 11$ |
| 950 | 1 110 110 110 1022012 | $2 \cdot 5^2 \cdot 19$ $5^2 + 21^2 + 22^2$ $14^2 + 15^2 + 23^2$ $10^2 + 15^2 + 25^2$ $6^2 + 17^2 + 25^2$ $1^2 + 18^2 + 25^2$ $7^2 + 15^2 + 26^2$ $10^2 + 11^2 + 27^2$ $5^2 + 14^2 + 27^2$ $3^2 + 10^2 + 29^2$ $5^2 + 5^2 + 30^2$ $1^2 + 7^2 + 30^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 2 \cdot 31 + 1 \cdot 21$ |
| 951 | 1 110 110 111 1022020 | $3 \cdot 317$ $160^2 - 157^2$ $476^2 - 475^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 2 \cdot 31 + 1 \cdot 21 + 11$ |
| 952 | 1 110 111 000 1022021 | $2^3 \cdot 7 \cdot 17$ $12^2 + 18^2 + 22^2$ $4^2 + 6^2 + 30^2$ $31^2 - 3^2$ $41^2 - 27^2$ $121^2 - 117^2$ $239^2 - 237^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 2 \cdot 31 + 2 \cdot 21$ |
| 953 | 1 110 111 001 1022022 | prime $13^2 + 28^2$ $16^2 + 16^2 + 21^2$ $10^2 + 18^2 + 23^2$ $11^2 + 16^2 + 24^2$ $4^2 + 19^2 + 24^2$ $2^2 + 18^2 + 25^2$ $9^2 + 14^2 + 26^2$ $5^2 + 12^2 + 28^2$ $2^2 + 7^2 + 30^2$ $2^3 + 6^3 + 9^3$ $477^2 - 476^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 2 \cdot 31 + 2 \cdot 21 + 11$ |
| 954 | 1 110 111 010 1022100 | $2 \cdot 3^2 \cdot 53$ $15^2 + 27^2$ $13^2 + 16^2 + 23^2$ $8^2 + 19^2 + 23^2$ $5^2 + 20^2 + 23^2$ $9^2 + 12^2 + 27^2$ $7^2 + 11^2 + 28^2$ $1^2 + 13^2 + 28^2$ $7^2 + 8^2 + 29^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31$ |
| 955 | 1 110 111 011 1022101 | $5 \cdot 191$ $15^2 + 17^2 + 21^2$ $1^2 + 15^2 + 27^2$ $98^2 - 93^2$ $478^2 - 477^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31 + 11$ |
| 956 | 1 110 111 100 1022102 | $2^2 \cdot 239$ $240^2 - 238^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31 + 1 \cdot 21$ |
| 957 | 1 110 111 101 1022110 | $3 \cdot 11 \cdot 29$ $14^2 + 19^2 + 20^2$ $5^2 + 16^2 + 26^2$ $2^2 + 13^2 + 28^2$ $4^2 + 10^2 + 29^2$ $31^2 - 2^2$ $49^2 - 38^2$ $161^2 - 158^2$ $479^2 - 478^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31 + 1 \cdot 21 + 11$ |
| 958 | 1 110 111 110 1022111 | $2 \cdot 479$ $3^2 + 18^2 + 25^2$ $2^2 + 15^2 + 27^2$ $6^2 + 9^2 + 29^2$ $3^2 + 7^2 + 30^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31 + 2 \cdot 21$ |
| 959 | 1 110 111 111 1022112 | $7 \cdot 137$ $72^2 - 65^2$ $480^2 - 479^2$ $1 \cdot 61 + 1 \cdot 51 + 4 \cdot 41 + 3 \cdot 31 + 2 \cdot 21 + 11$ |
| 960 | 1 111 000 000 1022120 | $2^6 \cdot 3 \cdot 5$ $31^2 - 1^2$ $32^2 - 8^2$ $34^2 - 14^2$ $38^2 - 22^2$ $46^2 - 34^2$ $53^2 - 43^2$ $64^2 - 56^2$ $83^2 - 77^2$ $122^2 - 118^2$ $241^2 - 239^2$ $1 \cdot 61 + 2 \cdot 51$ |
| 961 | 1 111 000 001 1022121 | 31^2 $14^2 + 18^2 + 21^2$ $6^2 + 21^2 + 22^2$ $6^2 + 14^2 + 27^2$ $5^2 + 6^2 + 30^2$ $481^2 - 480^2$ $1 \cdot 61 + 2 \cdot 51 + 11$ |
| 962 | 1 111 000 010 1022122 | $2 \cdot 13 \cdot 37$ $11^2 + 29^2$ $1^2 + 31^2$ $11^2 + 20^2 + 21^2$ $12^2 + 17^2 + 23^2$ $5^2 + 19^2 + 24^2$ $9^2 + 16^2 + 25^2$ $8^2 + 13^2 + 27^2$ $3^2 + 13^2 + 28^2$ $3^4 + 4^4 + 5^4$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 21$ |
| 963 | 1 111 000 011 1022200 | $3^2 \cdot 107$ $9^2 + 21^2 + 21^2$ $13^2 + 13^2 + 25^2$ $7^2 + 17^2 + 25^2$ $3^2 + 15^2 + 27^2$ $1^2 + 11^2 + 29^2$ $1^2 + 1^2 + 31^2$ $58^2 - 49^2$ $162^2 - 159^2$ $482^2 - 481^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 21 + 11$ |

(continued)

Table III (continued)

| | | |
|-----|--------------------------|--|
| 964 | 1 111 000 100 1022201 | $2^2 \cdot 241$ $8^2 + 30^2$ $8^2 + 18^2 + 24^2$ $12^2 + 12^2 + 26^2$ $6^2 + 12^2 + 28^2$ $242^2 - 240^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 21$ |
| 965 | 1 111 000 101 1022202 | $5 \cdot 193$ $17^2 + 26^2$ $2^2 + 31^2$ $15^2 + 16^2 + 22^2$ $9^2 + 20^2 + 22^2$ $6^2 + 20^2 + 23^2$ $10^2 + 17^2 + 24^2$ $12^2 + 14^2 + 25^2$ $4^2 + 18^2 + 25^2$ $8^2 + 15^2 + 26^2$ $9^2 + 10^2 + 28^2$ $4^2 + 7^2 + 30^2$ $1^2 + 8^2 + 30^2$ $99^2 - 94^2$ $483^2 - 482^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 21 + 11$ |
| 966 | 1 111 000 110 1022210 | $2 \cdot 3 \cdot 7 \cdot 23$ $11^2 + 19^2 + 22^2$ $11^2 + 13^2 + 26^2$ $1^2 + 17^2 + 26^2$ $5^2 + 10^2 + 29^2$ $2^2 + 11^2 + 29^2$ $1^2 + 2^2 + 31^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31$ |
| 967 | 1 111 000 111 1022211 | prime $484^2 - 483^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31 + 11$ |
| 968 | 1 111 001 000 1022212 | $2^3 \cdot 11^2$ $22^2 + 22^2$ $14^2 + 14^2 + 24^2$ $6^2 + 16^2 + 26^2$ $2^2 + 8^2 + 30^2$ $33^2 - 11^2$ $123^2 - 119^2$ $243^2 - 241^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31 + 1 \cdot 21$ |
| 969 | 1 111 001 001 1022220 | $3 \cdot 17 \cdot 19$ $13^2 + 20^2 + 20^2$ $14^2 + 17^2 + 22^2$ $1^2 + 22^2 + 22^2$ $2^2 + 17^2 + 26^2$ $8^2 + 11^2 + 28^2$ $4^2 + 13^2 + 28^2$ $8^2 + 8^2 + 29^2$ $2^2 + 2^2 + 31^2$ $35^2 - 16^2$ $37^2 - 20^2$ $163^2 - 160^2$ $485^2 - 484^2$ $(\frac{19}{3})$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31 + 1 \cdot 21 + 11$ |
| 970 | 1 111 001 010 1022221 | $2 \cdot 5 \cdot 97$ $21^2 + 23^2$ $3^2 + 31^2$ $13^2 + 15^2 + 24^2$ $4^2 + 15^2 + 27^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31 + 2 \cdot 21$ |
| 971 | 1 111 001 011 1022222 | prime $13^2 + 19^2 + 21^2$ $9^2 + 19^2 + 23^2$ $1^2 + 21^2 + 23^2$ $11^2 + 15^2 + 25^2$ $11^2 + 11^2 + 27^2$ $7^2 + 9^2 + 29^2$ $3^2 + 11^2 + 29^2$ $1^2 + 3^2 + 31^2$ $486^2 - 485^2$ $1 \cdot 61 + 2 \cdot 51 + 1 \cdot 31 + 2 \cdot 21 + 11$ |
| 972 | 1 111 001 100 1100000 | $2^2 \cdot 3^5$ $18^2 + 18^2 + 18^2$ $2^2 + 22^2 + 22^2$ $10^2 + 14^2 + 26^2$ $6^2 + 6^2 + 30^2$ $3^3 + 6^3 + 9^3$ $36^2 - 18^2$ $84^2 - 78^2$ $244^2 - 242^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31$ |
| 973 | 1 111 001 101 1100001 | $7 \cdot 139$ $6^2 + 19^2 + 24^2$ $10^2 + 12^2 + 27^2$ $3^2 + 8^2 + 30^2$ $73^2 - 66^2$ $487^2 - 486^2$ $10^3 - 3^3$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31 + 11$ |
| 974 | 1 111 001 110 1100002 | $2 \cdot 487$ $17^2 + 18^2 + 19^2$ $7^2 + 21^2 + 22^2$ $11^2 + 18^2 + 23^2$ $2^2 + 21^2 + 23^2$ $5^2 + 18^2 + 25^2$ $3^2 + 17^2 + 26^2$ $7^2 + 14^2 + 27^2$ $5^2 + 7^2 + 30^2$ $2^2 + 3^2 + 31^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31 + 1 \cdot 21$ |
| 975 | 1 111 001 111 1100010 | $3 \cdot 5^2 \cdot 13$ $32^2 - 7^2$ $40^2 - 25^2$ $44^2 - 31^2$ $100^2 - 95^2$ $164^2 - 161^2$ $488^2 - 487^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31 + 1 \cdot 21 + 11$ |
| 976 | 1 111 010 000 1100011 | $2^4 \cdot 61$ $20^2 + 24^2$ $12^2 + 16^2 + 24^2$ $65^2 - 57^2$ $124^2 - 120^2$ $245^2 - 243^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31 + 2 \cdot 21$ |
| 977 | 1 111 010 001 1100012 | prime $4^2 + 31^2$ $13^2 + 18^2 + 22^2$ $3^2 + 22^2 + 22^2$ $1^2 + 20^2 + 24^2$ $7^2 + 12^2 + 28^2$ $6^2 + 10^2 + 29^2$ $489^2 - 488^2$ $1 \cdot 61 + 2 \cdot 51 + 2 \cdot 31 + 2 \cdot 21 + 11$ |
| 978 | 1 111 010 010 1100020 | $2 \cdot 3 \cdot 163$ $16^2 + 19^2 + 19^2$ $17^2 + 17^2 + 20^2$ $7^2 + 20^2 + 23^2$ $8^2 + 17^2 + 25^2$ $5^2 + 13^2 + 28^2$ $4^2 + 11^2 + 29^2$ $1^2 + 4^2 + 31^2$ $1 \cdot 61 + 2 \cdot 51 + 3 \cdot 31$ |

(continued)

Table III (continued)

| | | | | | | |
|-----|---------------|---|---|--|--|--|
| 979 | 1 111 010 011 | $11 \cdot 89$ | $15^2 + 15^2 + 23^2$ | $3^2 + 21^2 + 23^2$ | $9^2 + 13^2 + 27^2$ | $5^2 + 15^2 + 27^2$ |
| | 1100021 | $3^2 + 3^2 + 31^2$ | $5^3 + 5^3 + 9^3$ | $\frac{5}{2} n^4$ | $50^2 - 39^2$ | $490^2 - 409^2$ |
| | | $1 \cdot 6! + 2 \cdot 5! + 3 \cdot 3! + 1!$ | | | | |
| 980 | 1 111 010 100 | $2^2 \cdot 5 \cdot 7^2$ | $14^2 + 28^2$ | $16^2 + 18^2 + 20^2$ | $2^2 + 20^2 + 24^2$ | $4^2 + 8^2 + 30^2$ |
| | 1100022 | $5^3 + 7^3 + 8^3$ | $42^2 - 28^2$ | $54^2 - 44^2$ | $246^2 - 244^2$ | $1 \cdot 6! + 2 \cdot 5! + 3 \cdot 3! + 1 \cdot 2!$ |
| 981 | 1 111 010 101 | $3^2 \cdot 109$ | $9^2 + 30^2$ | $14^2 + 16^2 + 23^2$ | $9^2 + 18^2 + 24^2$ | $10^2 + 16^2 + 25^2$ |
| | 1100100 | $7^2 + 16^2 + 26^2$ | $4^2 + 17^2 + 26^2$ | $1^2 + 14^2 + 28^2$ | $2^2 + 4^2 + 31^2$ | $59^2 - 50^2$ |
| | | $165^2 - 162^2$ | $491^2 - 490^2$ | $1 \cdot 6! + 2 \cdot 5! + 3 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 982 | 1 111 010 110 | $2 \cdot 491$ | $10^2 + 21^2 + 21^2$ | $9^2 + 15^2 + 26^2$ | $1^2 + 9^2 + 30^2$ | |
| | 1100101 | | $1 \cdot 6! + 2 \cdot 5! + 3 \cdot 3! + 2 \cdot 2!$ | q(39) | | |
| 983 | 1 111 010 111 | prime | $492^2 - 491^2$ | $1 \cdot 6! + 2 \cdot 5! + 3 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| | 1100102 | | | | | |
| 984 | 1 111 011 000 | $2^3 \cdot 3 \cdot 41$ | $10^2 + 20^2 + 22^2$ | $4^2 + 22^2 + 22^2$ | $10^2 + 10^2 + 28^2$ | $2^2 + 14^2 + 28^2$ |
| | 1100110 | $47^2 - 35^2$ | $85^2 - 79^2$ | $125^2 - 121^2$ | $247^2 - 245^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4!$ |
| 985 | 1 111 011 001 | $5 \cdot 197$ | $16^2 + 27^2$ | $12^2 + 29^2$ | $12^2 + 20^2 + 21^2$ | $3^2 + 20^2 + 24^2$ |
| | 1100111 | $6^2 + 7^2 + 30^2$ | $2^2 + 9^2 + 30^2$ | $101^2 - 96^2$ | $493^2 - 492^2$ | $6^2 + 18^2 + 25^2$ |
| | | | | | | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1!$ |
| 986 | 1 111 011 010 | $2 \cdot 17 \cdot 29$ | $19^2 + 25^2$ | $5^2 + 31^2$ | $15^2 + 19^2 + 20^2$ | $16^2 + 17^2 + 21^2$ |
| | 1100112 | $4^2 + 21^2 + 23^2$ | $11^2 + 17^2 + 24^2$ | $7^2 + 19^2 + 24^2$ | $1^2 + 16^2 + 27^2$ | $9^2 + 11^2 + 28^2$ |
| | | $8^2 + 9^2 + 29^2$ | $1^2 + 12^2 + 29^2$ | $3^2 + 4^2 + 31^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 2!$ | |
| 987 | 1 111 011 011 | $3 \cdot 7 \cdot 47$ | $13^2 + 17^2 + 23^2$ | $1^2 + 19^2 + 25^2$ | $5^2 + 11^2 + 29^2$ | $1^2 + 5^2 + 31^2$ |
| | 1100120 | $34^2 - 13^2$ | $74^2 - 67^2$ | $166^2 - 163^2$ | $494^2 - 493^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 2! + 1!$ |
| | | Fibonacci | | | | |
| 988 | 1 111 011 100 | $2^2 \cdot 13 \cdot 19$ | $32^2 - 6^2$ | $248^2 - 246^2$ | $11^3 - 7^3$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 2!$ |
| | 1100121 | | | | | |
| 989 | 1 111 011 101 | $23 \cdot 43$ | $12^2 + 19^2 + 22^2$ | $8^2 + 21^2 + 22^2$ | $12^2 + 13^2 + 26^2$ | $8^2 + 14^2 + 27^2$ |
| | 1100122 | $2^2 + 16^2 + 27^2$ | $6^2 + 13^2 + 28^2$ | $3^2 + 14^2 + 28^2$ | $2^2 + 12^2 + 29^2$ | $5^2 + 8^2 + 30^2$ |
| | | $33^2 - 10^2$ | $495^2 - 494^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 2! + 1!$ | | |
| 990 | 1 111 011 110 | $2 \cdot 3^2 \cdot 5 \cdot 11$ | $\sum_{n=1}^{44} n$ | $15^2 + 18^2 + 21^2$ | $10^2 + 19^2 + 23^2$ | $13^2 + 14^2 + 25^2$ |
| | 1100200 | $2^2 + 19^2 + 25^2$ | $5^2 + 17^2 + 26^2$ | $6^2 + 15^2 + 27^2$ | $7^2 + 10^2 + 29^2$ | $3^2 + 9^2 + 30^2$ |
| | | $2^2 + 5^2 + 31^2$ | ($\frac{45}{2}$) | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3!$ | | |
| 991 | 1 111 011 111 | prime | $496^2 - 495^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1!$ | | |
| | 1100201 | | | | | |
| 992 | 1 111 100 000 | $2^5 \cdot 31$ | $4^2 + 20^2 + 24^2$ | $8^2 + 12^2 + 26^2$ | $39^2 - 23^2$ | $66^2 - 58^2$ |
| | 1100202 | $249^2 - 247^2$ | $10^3 - 2^3$ | $4^5 - 2^5$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2!$ | $126^2 - 122^2$ |

(continued)

Table III (continued)

| | | | | | | |
|------|---------------|------------------------|---|---|----------------------|--|
| 993 | 1 111 100 001 | $3 \cdot 331$ | $5^2 + 22^2 + 22^2$ | $8^2 + 20^2 + 23^2$ | $11^2 + 14^2 + 26^2$ | $4^2 + 4^2 + 31^2$ |
| | 1100210 | $167^2 - 164^2$ | $497^2 - 496^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 1 \cdot 2! + 1!$ | | |
| 994 | 1 111 100 010 | $2 \cdot 7 \cdot 71$ | $12^2 + 15^2 + 25^2$ | $11^2 + 12^2 + 27^2$ | $3^2 + 16^2 + 27^2$ | $3^2 + 12^2 + 29^2$ |
| | 1100211 | | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2!$ | | | |
| 995 | 1 111 100 011 | $5 \cdot 199$ | $5^2 + 21^2 + 23^2$ | $9^2 + 17^2 + 25^2$ | $3^2 + 19^2 + 25^2$ | $3^2 + 5^2 + 31^2$ |
| | 1100212 | $102^2 - 97^2$ | $498^2 - 497^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 1 \cdot 3! + 2 \cdot 2! + 1!$ | | |
| 996 | 1 111 100 100 | $2^2 \cdot 3 \cdot 83$ | $14^2 + 20^2 + 20^2$ | $16^2 + 16^2 + 22^2$ | $8^2 + 16^2 + 26^2$ | $4^2 + 14^2 + 28^2$ |
| | 1100220 | $86^2 - 80^2$ | $250^2 - 248^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3!$ | | |
| 997 | 1 111 100 101 | prime | $6^2 + 31^2$ | $12^2 + 18^2 + 23^2$ | $14^2 + 15^2 + 24^2$ | $4^2 + 9^2 + 30^2$ |
| | 1100221 | | $499^2 - 498^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1!$ | | |
| 998 | 1 111 100 110 | $2 \cdot 499$ | $14^2 + 19^2 + 21^2$ | $15^2 + 17^2 + 22^2$ | $7^2 + 18^2 + 25^2$ | $10^2 + 13^2 + 27^2$ |
| | 1100222 | | $6^2 + 11^2 + 29^2$ | $7^2 + 7^2 + 30^2$ | $1^2 + 6^2 + 31^2$ | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2!$ |
| 999 | 1 111 100 111 | $3^3 \cdot 37$ | $32^2 - 5^2$ | $60^2 - 51^2$ | $168^2 - 165^2$ | $500^2 - 499^2$ |
| | 1101000 | | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 1 \cdot 2! + 1!$ | | | $10^3 - 1^3$ |
| 1000 | 1 111 101 000 | $2^3 \cdot 5^3$ | 10^3 | $18^2 + 26^2$ | $10^2 + 30^2$ | $10^2 + 18^2 + 24^2$ |
| | 1101001 | $35^2 - 15^2$ | $55^2 - 45^2$ | $127^2 - 123^2$ | $251^2 - 249^2$ | $6^2 + 8^2 + 30^2$ |
| | | | $1 \cdot 6! + 2 \cdot 5! + 1 \cdot 4! + 2 \cdot 3! + 2 \cdot 2!$ | | | |

Table IV

| | | |
|--|---|--|
| $-\frac{6}{x^2} \ln \frac{\sin x}{x}$ | | $\frac{1}{x} \int_0^x \frac{tdt}{\sin t}$ |
| 1 0 1/30 0 2/945 0 1/6300 0 2/155925 0 | 1.0 .0 .03333 33333 .0 .00211 64021 .0 .00015 87302 .0 .00001 28267 .0 | 1 0 1/18 0 7/1800 0 31/105840 0 127/5443200 0 |
| $\frac{4}{x^2} (\gamma + \ln x - Ci(x))$ | Ref. 9,10 | $\frac{1}{x} \int_0^x \frac{tdt}{\sinh t}$ |
| 1 0 -1/24 0 1/1080 0 -1/80640 0 1/9072000 0 | 1.0 .0 -.04166 66667 .0 .00092 59259 .0 -.00001 24008 .0 .00000 01102 .0 | 1 0 -1/18 0 7/1800 0 -31/105840 0 127/5443200 0 |
| $1 - \frac{1}{x} \int_0^x \ln \frac{\sin t}{t} dt$ | | $\frac{1}{x} \int_0^x \frac{\arcsin t}{t} dt$ |
| 1 0 1/18 0 1/900 0 1/19845 0 1/340200 0 | 1.0 .0 .05555 55556 .0 .00111 11111 .0 .00005 03905 .0 .00000 29394 .0 | 1 0 1/18 0 3/200 0 5/784 0 35/10368 0 |
| $\frac{1}{x} Shi(x)$ | Ref. 9 | $\frac{1}{x} \int_0^x \frac{\operatorname{arcsinh} t}{t} dt$ |
| 1 0 1/18 0 1/600 0 1/35280 0 1/3265920 0 | 1.0 .0 .05555 55556 .0 .00166 66667 .0 .00002 83447 .0 .00000 03062 .0 | 1 0 -1/18 0 3/200 0 -5/784 0 35/10368 0 |
| $\frac{1}{x} Si(x)$ | Ref. 9 | $\frac{8}{x^2} J_2(x)$ Bessel function |
| 1 0 -1/18 0 1/600 0 -1/35280 0 1/3265920 0 | 1.0 .0 -.05555 55556 .0 .00166 66667 .0 -.00002 83447 .0 .00000 03062 .0 | 1 0 -1/12 0 1/384 0 -1/23040 0 1/2203840 0 |

(continued)

Table IV (continued)

| | | | |
|---|---|---|---|
| $-\frac{6}{x^3} \int_0^x \ln \cos t dt$ | | $\frac{1}{2}((1+x)^{1/2} + (1-x)^{1/2})$ | |
| 1 0 1/10 0 2/105 0 17/3780 0 62/51975 0 | 1.0 .0 .10000 00000 .0 .01904 76190 .0 .00449 73545 .0 .00119 28812 .0 | 1 0 -1/8 0 -5/128 0 -21/1024 0 -429/32768 0 | 1.0 .0 -.12500 00000 .0 -.03906 25000 .0 -.02050 78125 .0 -.01309 20410 .0 |
| $\frac{1}{x} \int_0^x t \cot t dt$ | | $\frac{1}{x}((1+x)^{1/2} - (1-x)^{1/2})$ | |
| 1 0 -1/9 0 -1/225 0 -2/6615 0 -1/42525 0 | 1.0 .0 -.11111 11111 .0 -.00444 44444 .0 -.00030 23432 .0 -.00002 35156 .0 | 1 0 1/8 0 7/128 0 33/1024 0 715/32768 0 | 1.0 .0 .12500 00000 .0 .05468 75000 .0 .03222 65625 .0 .02182 00684 .0 |
| $\frac{1}{x} \int_0^x \frac{\operatorname{arctanh} t}{t} dt$ | | $\frac{1}{2}((1+x)^{1/2} + (1+x)^{-1/2})$ | |
| 1 0 1/9 0 1/25 0 1/49 0 1/81 0 | 1.0 .0 .11111 11111 .0 .04000 00000 .0 .02040 81633 .0 .01234 56790 .0 | 1 0 1/8 -1/8 15/128 -7/64 105/1024 -99/1024 3003/32768 -715/8192 | 1.0 .0 .12500 00000 -.12500 00000 .11718 75000 -.10937 50000 .10253 90625 -.09667 96875 .09164 42871 -.08728 02734 |
| $\frac{1}{x} \int_0^x \frac{\operatorname{arctan} t}{t} dt$ | | $\frac{9}{x^3} \int_0^x \ln \frac{\tan t}{t} dt$ | |
| 1 0 -1/9 0 1/25 0 -1/49 0 1/81 0 | 1.0 .0 -.11111 11111 .0 .04000 00000 .0 -.02040 81633 .0 .01234 56790 .0 | 1 0 7/50 0 62/735 0 127/18900 0 146/81675 0 | 1.0 .0 .14000 00000 .0 .08435 37415 .0 .00671 95767 .0 .00178 75727 .0 |
| $\frac{2}{x} J_1(x)$ | Bessel function | $\frac{1}{x} \sinh x$ | |
| 1 0 -1/8 0 1/192 0 -1/2304 0 1/737280 0 | 1.0 .0 -.12500 00000 .0 .00520 83333 .0 -.00043 40278 .0 .00000 13563 .0 | 1 0 1/6 0 1/120 0 1/5040 0 1/362880 0 | 1.0 .0 .16666 66667 .0 .00833 33333 .0 .00019 84127 .0 .00000 27557 .0 |

(continued)

Table IV (continued)

| | |
|---|--|
| $\frac{1}{x} \int_0^x \operatorname{sech} t dt$ | $\frac{1}{x} \int_0^x \operatorname{sech} t dt$ |
| 1 1.0 0 .0 -1/6 -.16666 66667 0 .0 1/120 .00833 33333 0 .0 -1/5040 -.00019 84127 0 .0 1/362880 .00000 27557 0 .0 | 1 1.0 0 .0 -1/6 -.16666 66667 0 .0 1/24 .04166 66667 0 .0 -61/5040 -.01210 31746 0 .0 277/72576 .00381 66887 0 .0 |
| $x \csc x$ | $-\frac{2}{x^2} \ln \cos x$ |
| 1 1.0 0 .0 1/6 .16666 66667 0 .0 7/360 .01944 44444 0 .0 31/15120 .00205 02646 0 .0 127/604800 .00020 99868 0 .0 | 1 1.0 0 .0 1/6 .16666 66667 0 .0 2/45 .04444 44444 0 .0 17/1260 .01349 20635 0 .0 62/14175 .00437 38977 0 .0 |
| $x \operatorname{csch} x$ | $\frac{1}{x} \arcsin x$ |
| 1 1.0 0 .0 -1/6 -.16666 66667 0 .0 7/360 .01944 44444 0 .0 -31/15120 -.00205 02646 0 .0 127/604800 .00020 99868 0 .0 | 1 1.0 0 .0 1/6 .16666 66667 0 .0 3/40 .07500 00000 0 .0 5/112 .04464 28571 0 .0 35/1152 .03038 19444 0 .0 |
| $\frac{1}{x} \int_0^x e^{-t^2/2} dt$ | $\frac{1}{x} \operatorname{arcsinh} x$ |
| 1 1.0 0 .0 -1/6 -.16666 66667 0 .0 1/40 .02500 00000 0 .0 -1/336 -.00297 61905 0 .0 1/3456 .00028 93519 0 .0 | 1 1.0 0 .0 -1/6 -.16666 66667 0 .0 3/40 .07500 00000 0 .0 -5/112 -.04464 28571 0 .0 35/1152 .03038 19444 0 .0 |
| $\frac{1}{x} \int_0^x \sec t dt$ | $\frac{3}{2} \ln \frac{\tan x}{x}$ |
| 1 1.0 0 .0 1/6 .16666 66667 0 .0 1/24 .04166 66667 0 .0 61/5040 .01210 31746 0 .0 277/72576 .00381 66887 0 .0 | 1 1.0 0 .0 7/30 .23333 33333 0 .0 62/945 .06560 84656 0 .0 127/6300 .02015 87302 0 .0 146/22275 .00655 44332 0 .0 |

(continued)

Table IV (continued)

| | | |
|---|-----------------|---|
| $I_0(x)$ | Bessel function | $\frac{2}{\pi} \int_0^{\pi/2} \frac{d\theta}{\sqrt{1 - x^2 \sin^2 \theta}}$ |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| 1/4 | .25000 00000 | .25000 00000 |
| 0 | .0 | .0 |
| 1/64 | .01562 50000 | .14062 50000 |
| 0 | .0 | .0 |
| 1/2304 | .00043 40278 | .09765 62500 |
| 0 | .0 | .0 |
| 1/147456 | .00000 67817 | .07476 80664 |
| 0 | .0 | .0 |
| $J_0(x)$ | Bessel function | $\frac{3}{x^3} \int_0^x \frac{t^2 dt}{\cos t}$ |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/4 | -.25000 00000 | .30000 00000 |
| 0 | .0 | .0 |
| 1/64 | .01562 50000 | .08928 57143 |
| 0 | .0 | .0 |
| -1/2304 | -.00043 40278 | .02824 07407 |
| 0 | .0 | .0 |
| 1/147456 | .00000 67817 | .00936 82359 |
| 0 | .0 | .0 |
| $\frac{2}{\pi} \int_0^{\pi/2} \sqrt{1 - x^2 \sin^2 \theta} d\theta$ | | x coth x |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/4 | -.25000 00000 | .33333 33333 |
| 0 | .0 | .0 |
| -3/64 | -.04687 50000 | -.02222 22222 |
| 0 | .0 | .0 |
| -5/128 | -.03906 25000 | .00211 64021 |
| 0 | .0 | .0 |
| -175/16384 | -.01068 11523 | -.00021 16402 |
| 0 | .0 | .0 |
| $\frac{2}{x^2} \int_0^x \frac{tdt}{\cos t}$ | | x cot x |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| 1/4 | .25000 00000 | -.33333 33333 |
| 0 | .0 | .0 |
| 5/72 | .06944 44444 | -.02222 22222 |
| 0 | .0 | .0 |
| 61/2880 | .02118 05556 | .00211 64021 |
| 0 | .0 | .0 |
| 277/40320 | .00687 00397 | -.00021 16402 |
| 0 | .0 | .0 |
| $\frac{2}{x^2} \int_0^x \frac{tdt}{\cosh t}$ | | $\frac{2}{x^2} J_2(2x)$ Bessel function |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/4 | -.25000 00000 | -.33333 33333 |
| 0 | .0 | .0 |
| 5/72 | .06944 44444 | .04166 66667 |
| 0 | .0 | .0 |
| -61/2880 | -.02118 05556 | -.00277 77778 |
| 0 | .0 | .0 |
| 277/40320 | .00687 00397 | .00011 57407 |
| 0 | .0 | .0 |

(continued)

Table IV (continued)

| | | |
|--|---------------|---|
| $\frac{1}{x} \int_0^x e^{-t^2} dt$ | | $-\frac{4}{x^2} (\ln \frac{x}{2} + \operatorname{arccosh} \frac{1}{x})$ |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/3 | -.33333 33333 | .37500 00000 |
| 0 | .0 | .0 |
| 1/10 | .10000 00000 | .20833 33333 |
| 0 | .0 | .0 |
| -1/42 | -.02380 95238 | .13671 87500 |
| 0 | .0 | .0 |
| 1/216 | .00462 96296 | .09843 75000 |
| 0 | .0 | .0 |
| $\frac{1}{x} \tan x$ | | $\frac{4}{x^2} (\ln \frac{x}{2} + \operatorname{arcsinh} \frac{1}{x})$ |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| 1/3 | .33333 33333 | -.37500 00000 |
| 0 | .0 | .0 |
| 2/15 | .13333 33333 | .20833 33333 |
| 0 | .0 | .0 |
| 17/315 | .05396 82540 | -.13671 87500 |
| 0 | .0 | .0 |
| 62/2835 | .02186 94885 | .09843 75000 |
| 0 | .0 | .0 |
| $\frac{1}{x} \tanh x$ | | cosh x |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/3 | -.33333 33333 | .50000 00000 |
| 0 | .0 | .0 |
| 2/15 | .13333 33333 | .04166 66667 |
| 0 | .0 | .0 |
| -17/315 | -.05396 82540 | .00138 88889 |
| 0 | .0 | .0 |
| 62/2835 | .02186 94885 | .00002 48016 |
| 0 | .0 | .0 |
| $\frac{1}{x} \operatorname{arctanh} x$ | | cos x |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| 1/3 | .33333 33333 | -.50000 00000 |
| 0 | .0 | .0 |
| 1/5 | .20000 00000 | .04166 66667 |
| 0 | .0 | .0 |
| 1/7 | .14285 71429 | -.00138 88889 |
| 0 | .0 | .0 |
| 1/9 | .11111 11111 | .00002 48016 |
| 0 | .0 | .0 |
| $\frac{1}{x} \operatorname{arctan} x$ | | $\frac{x^2}{e^{x^2} - 1}$ |
| 1 | 1.0 | 1.0 |
| 0 | .0 | .0 |
| -1/3 | -.33333 33333 | -.50000 00000 |
| 0 | .0 | .0 |
| 1/5 | .20000 00000 | .08333 33333 |
| 0 | .0 | .0 |
| -1/7 | -.14285 71429 | .0 |
| 0 | .0 | .0 |
| 1/9 | .11111 11111 | -.00138 88889 |
| 0 | .0 | .0 |

(continued)

Table IV (continued)

| | | | |
|---------------------------|-----------------|---|-----------------|
| $\frac{1}{x} J_1(2x)$ | Bessel function | $J_0(2x)$ | Bessel function |
| 1 | 1.0 | 1 | 1.0 |
| 0 | .0 | 0 | .0 |
| -1/2 | -.50000 00000 | -1 | -1.00000 00000 |
| 0 | .0 | 0 | .0 |
| 1/12 | .08333 33333 | 1/4 | .25000 00000 |
| 0 | .0 | 0 | .0 |
| -1/144 | -.00694 44444 | -1/36 | -.02777 77778 |
| 0 | .0 | 0 | .0 |
| 1/2880 | .00034 72222 | 1/576 | .00173 61111 |
| 0 | .0 | 0 | .0 |
| $F(1 - x, 1 + x)$ Ref. 36 | | $\frac{1+x}{1+x+x^2}$ | |
| 1 | 1.0 | 1 | |
| 0 | .0 | 0 | |
| 1/2 | .50000 00000 | -1 | |
| 0 | .0 | 1 | |
| 1/8 | .12500 00000 | 0 | |
| 0 | .0 | -1 | |
| -1/16 | -.06250 00000 | 1 | |
| 0 | .0 | 0 | |
| 5/128 | .03906 25000 | -1 | |
| 0 | .0 | 1 | |
| $e^{\cos x - 1}$ | | $F(1 - 2x, 1 + 2x)$ Ref. 36 | |
| 1 | 1.0 | 1 | |
| 0 | .0 | 0 | |
| -1/2 | -.50000 00000 | 2 | |
| 0 | .0 | 0 | |
| 1/6 | .16666 66667 | 2 | |
| 0 | .0 | 0 | |
| -31/720 | -.04305 55556 | -4 | |
| 0 | .0 | 0 | |
| 379/40320 | .00939 98016 | 10 | |
| 0 | .0 | 0 | |
| sec x | | $\frac{3}{2x} \left(\frac{1+x}{\sqrt{x}} \ln \frac{1+\sqrt{x}}{1-\sqrt{x}} + 2 \ln(1-x) - 2 \right)$ | |
| 1 | 1.0 | 1 | 1.0 |
| 0 | .0 | 1/10 | .10000 00000 |
| 1/2 | .50000 00000 | 1/35 | .02857 14286 |
| 0 | .0 | 1/84 | .01190 47619 |
| 5/24 | .20833 33333 | 1/165 | .00606 06061 |
| 0 | .0 | 1/286 | .00349 65035 |
| 61/720 | .08472 22222 | 1/455 | .00219 78022 |
| 0 | .0 | 1/680 | .00147 05882 |
| 277/8064 | .03435 01984 | 1/969 | .00103 19917 |
| 0 | .0 | 1/1330 | .00075 18797 |
| sech x | | $\frac{3}{x} (1 - \ln(1+x) - \frac{1-x}{\sqrt{x}} \arctan x)$ | |
| 1 | 1.0 | 1 | 1.0 |
| 0 | .0 | -1/10 | -.10000 00000 |
| -1/2 | -.50000 00000 | 1/35 | .02857 14286 |
| 0 | .0 | -1/84 | -.01190 47619 |
| 5/24 | .20833 33333 | 1/165 | .00606 06061 |
| 0 | .0 | -1/286 | -.00349 65035 |
| -61/720 | -.08472 22222 | 1/455 | .00219 78022 |
| 0 | .0 | -1/680 | -.00147 05882 |
| 277/8064 | .03435 01984 | 1/969 | .00103 19917 |
| 0 | .0 | -1/1330 | -.00075 18797 |

(continued)

Table IV (continued)

| | |
|---|--|
| $(1 + x)^{1/8}$ | $(1 - x)^{1/7}$ |
| 1 1/8 -7/128 35/1024 -805/32768 4991/262144 -64883/4194304 435643/33554432 -23960365/2147483648 167722555/17179869184 | 1.0 .12500 00000 -.05468 75000 .03417 96875 -.02456 66504 .01903 91541 -.01546 93127 .01298 31731 -.01115 74144 .00976 27376 |
| $(1 - x)^{1/8}$ | $(1 - x)^{-1/7}$ |
| 1 -1/8 -7/128 -35/1024 -805/32768 -4991/262144 -64883/4194304 -435643/33554432 -23960365/2147483648 -167722555/17179869184 | 1.0 -.12500 00000 -.05468 75000 -.03417 96875 -.02456 66504 -.01903 91541 -.01546 93127 -.01298 31731 -.01115 74144 -.00976 27376 |
| $(1 - x)^{-1/8}$ | $(1 + x)^{-1/7}$ |
| 1 1/8 9/128 51/1024 1275/32768 8415/262144 115005/4194304 805035/33554432 45886995/2147483648 331406075/17179869184 | 1.0 .12500 00000 .07031 25000 .04980 46875 .03890 99121 .03210 06775 .02741 93287 .02399 19126 .02136 77972 .01929 03724 |
| $(1 + x)^{-1/8}$ | $(1 + x)^{1/6}$ |
| 1 -1/8 9/128 -51/1024 1275/32768 -8415/262144 115005/4194304 -805035/33554432 45886995/2147483648 -331406075/17179869184 | 1.0 -.12500 00000 .07031 25000 -.04980 46875 .03890 99121 -.03210 06775 .02741 93287 -.02399 19126 .02136 77972 -.01929 03724 |
| $(1 + x)^{1/7}$ | $(1 - x)^{1/6}$ |
| 1 1/7 -3/49 13/343 -65/2401 351/16807 -1989/117649 81549/5764801 -489294/40353607 2990130/282475249 | 1.0 -.14285 71429 -.06122 44898 .03790 08746 -.02707 20533 .02088 41554 -.01690 62210 .01414 60217 -.01212 51615 .01058 54584 |

(continued)

Table IV (continued)

| | |
|---|---|
| $(1 - x)^{-1/6}$ | $(1 + x)^{-1/5}$ |
| 1 1/6 7/72 91/1296 1729/31104 8645/186624 267995/6718464 1416545/40310784 60911435/1934917632 2984660315/104485552128 | 1.0 .16666 66667 .09722 22222 .07021 60494 .05558 77058 .04632 30881 .03988 93259 .03514 05966 .03148 01178 .02856 52921 |
| $(1 + x)^{-1/6}$ | $\int_0^1 t^{xt} dt$ |
| 1 -1/6 7/72 -91/1296 1729/31104 -8645/186624 267995/6718464 -1416545/40310784 60911435/1934917632 -2984660315/104485552128 | 1.0 -.16666 66667 .09722 22222 .07021 60494 .05558 77058 .04632 30881 .03988 93259 .03514 05966 .03148 01178 .02856 52921 |
| $(1 + x)^{1/5}$ | $\frac{1}{x} \int_0^x F(l, l+t) dt$ Ref. 36 |
| 1 1/5 -2/25 6/125 -21/625 399/15625 -1596/78125 6612/390625 -28101/1953125 121771/9765625 | 1.0 .25000 00000 -.08000 00000 .04800 00000 -.03360 00000 .02553 60000 -.02042 88000 |
| $(1 - x)^{1/5}$ | $\frac{1}{x}(Ei(x) - \gamma - \ln x)$ Ref. 9,10 |
| 1 -1/5 -2/25 -6/125 -21/625 -399/15625 -1596/78125 -6612/390625 -28101/1953125 -121771/9765625 | 1.0 .25000 00000 -.08000 00000 -.04800 00000 -.03360 00000 -.02553 60000 -.02042 88000 -.01692 67200 -.01438 77120 -.01246 93504 |
| $(1 - x)^{-1/5}$ | $\frac{1}{x}(E_1(x) + \gamma + \ln x)$ Ref. 9,10 |
| 1 1/5 3/25 11/125 44/625 924/15625 4004/78125 17732/390625 79794/1953125 363506/9765625 | 1.0 -.25000 00000 .05555 55556 -.01041 66667 .00166 66667 -.00023 14815 .00002 83447 -.00000 31002 .00000 03062 -.00000 00276 |

(continued)

Table IV (continued)

| | |
|---|--|
| $(1+x)^{1/4}$ | $(1+x)^{2/7}$ |
| 1 1/4 -3/32 7/128 -77/2048 231/8192 -1463/65536 4807/262144 -129789/8388608 447051/33554432 | 1.0 .25000 00000 -.09375 00000 .05468 75000 -.03759 76563 .02819 82422 -.02232 36084 .01833 72498 -.01547 20545 .01332 31580 |
| $(1-x)^{1/4}$ | $(1-x)^{2/7}$ |
| 1 -1/4 -3/32 -7/128 -77/2048 -231/8192 -1463/65536 -4807/262144 -129789/8388608 -447051/33554432 | 1.0 -.25000 00000 -.09375 00000 -.05468 75000 -.03759 76563 -.02819 82422 -.02232 36084 -.01833 72498 -.01547 20545 -.01332 31580 |
| $\frac{9}{2x} - \frac{3}{x^2} - \frac{3(1-x)^2}{x^3} \ln(1-x)$ | $(1-x)^{-2/7}$ |
| 1 1/4 1/10 1/20 1/35 1/56 1/84 1/120 1/165 1/220 | 1.0 .25000 00000 .10000 00000 .05000 00000 .02857 14286 .01785 71429 .01190 47619 .00833 33333 .00606 06061 .00454 54545 |
| $(1-x)^{-1/4}$ | $(1+x)^{-2/7}$ |
| 1 1/4 5/32 15/128 195/2048 663/8192 4641/65536 16575/262144 480675/8388608 1762475/33554432 | 1.0 .25000 00000 .15625 00000 .11718 75000 .09521 48438 .08093 26172 .07081 60400 .06322 86072 .05730 09253 .05252 58482 |
| $(1+x)^{-1/4}$ | $(1+x)^{1/3}$ |
| 1 -1/4 5/32 -15/128 195/2048 -663/8192 4641/65536 -16575/262144 480675/8388608 -1762475/33554432 | 1.0 -.25000 00000 .15625 00000 -.11718 75000 .09521 48438 -.08093 26172 .07081 60400 -.06322 86072 .05730 09253 -.05252 58482 |

(continued)

Table IV (continued)

| | |
|---|---|
| $(1 - x)^{1/3}$ | $(1 - x)^{-3/8}$ |
| 1 -1/3 -1/9 -5/81 -10/243 -22/729 -154/6561 -374/19683 -935/59049 -21505/1594323 | 1.0 .33333 33333 .11111 11111 .06172 83951 .04115 22634 .03017 83265 .02347 20317 .01900 11685 .01583 43071 .01348 84838 |
| $(1 - x)^{-1/3}$ | $(1 + x)^{-3/8}$ |
| 1 1/3 2/9 14/81 35/243 91/729 728/6561 1976/19683 5434/59049 135850/1594323 | 1.0 .33333 33333 .22222 22222 .17283 95062 .14403 29218 .12482 85322 .11095 86953 .10039 12005 .09202 52672 .08520 85807 |
| $(1 + x)^{-1/3}$ | $(1 + x)^{2/5}$ |
| 1 -1/3 2/9 -14/81 35/243 -91/729 728/6561 -1976/19683 5434/59049 -135850/1594323 | 1.0 .33333 33333 .22222 22222 .17283 95062 .14403 29218 .12482 85322 .11095 86953 .10039 12005 .09202 52672 .08520 85807 |
| $(1 + x)^{3/8}$ | $(1 - x)^{2/5}$ |
| 1 3/8 -15/128 65/1024 -1365/32768 7917/262144 -97643/4194304 627705/33554432 -33268365/2147483648 225485585/17179869184 | 1.0 .37500 00000 .11718 75000 .06347 65625 .04165 64941 .03020 09583 .02327 99053 .01870 70668 .01549 17897 .01312 49885 |
| $(1 - x)^{3/8}$ | $(1 - x)^{-2/5}$ |
| 1 -3/8 -15/128 -65/1024 -1365/32768 -7917/262144 -97643/4194304 -627705/33554432 -33268365/2147483648 -225485585/17179869184 | 1.0 .37500 00000 .11718 75000 .06347 65625 .04165 64941 .03020 09583 .02327 99053 .01870 70668 .01549 17897 .01312 49885 |

(continued)

Table IV (continued)

| | |
|--|--|
| $(1+x)^{-2/5}$ | $\frac{x}{e^x - 1}$ |
| 1 -2/5 7/25 -28/125 119/625 -2618/15625 11781/78125 -53856/390625 249084/1953125 -1162392/9765625 | 1.0 .40000 00000 .28000 00000 -.22400 00000 .19040 00000 -.16755 20000 .15079 68000 -.13787 13600 |
| $(1+x)^{3/7}$ | $F(1, 1+x)$ |
| 1 3/7 -6/49 22/343 -99/2401 | 1.0 .42857 14286 -.12244 89796 .06413 99417 -.04123 28197 .02945 20140 -.02243 96297 |
| $(1-x)^{3/7}$ | $2+x - F(1, 1+x)$ |
| 1 -3/7 -6/49 -22/343 -99/2401 -495/16807 -2640/117649 -102960/5764801 -592020/40353607 -3486340/282475249 | 1.0 -.42857 14286 -.12244 89796 -.06413 99417 -.04123 28197 -.02945 20140 -.02243 96297 -.01786 01135 -.01467 08075 -.01234 21079 |
| $(1-x)^{-3/7}$ | $(1+x)^{1/2}$ |
| 1 3/7 15/49 85/343 510/2401 3162/16807 20026/117649 901170/5764801 5857605/40353607 38399855/282475249 | 1.0 .42857 14286 .30612 24490 .24781 34111 .21241 14952 .18813 58958 .17021 81914 .15632 28288 .14515 69125 .13594 06006 |
| $(1+x)^{-3/7}$ | $(1-x)^{1/2}$ |
| 1 -3/7 15/49 -85/343 510/2401 -3162/16807 20026/117649 -901170/5764801 5857605/40353607 -38399855/282475249 | 1.0 -.42857 14286 -.30612 24490 -.24781 34111 .21241 14952 -.18813 58958 .17021 81914 -.15632 28288 |

(continued)

Table IV (continued)

| | | |
|---|---------------|---|
| $\frac{1}{x} \psi'(\frac{1}{x})$ | Ref. 1 | $(1 - x)^{-1/2}$ |
| 1 | 1.0 | 1.0 |
| 1/2 | .50000 00000 | .50000 00000 |
| 1/6 | .16666 66667 | .37500 00000 |
| 0 | .0 | .31250 00000 |
| -1/30 | -.03333 33333 | .27343 75000 |
| 0 | .0 | .24609 37500 |
| 1/42 | .02380 95238 | .22558 59375 |
| 0 | .0 | .20947 26563 |
| -1/30 | -.03333 33333 | .19638 06152 |
| 0 | .0 | .18547 05811 |
| $\frac{1}{x} \int_0^x F(1, 1+2t)dt$ | Ref. 36 | $(1 + x)^{-1/2}$ |
| 1 | 1.0 | 1.0 |
| 1/2 | .50000 00000 | -.50000 00000 |
| 1/6 | .16666 66667 | .37500 00000 |
| -1/8 | -.12500 00000 | -.31250 00000 |
| 1/8 | .12500 00000 | .27343 75000 |
| -7/48 | -.14583 33333 | .24609 37500 |
| 19/112 | .16964 28571 | .22558 59375 |
| -23/128 | -.17968 75000 | .20947 26563 |
| 21/128 | .16406 25000 | .19638 06152 |
| -31/256 | -.12109 37500 | .18547 05811 |
| $\frac{1}{2x} \int_0^x \frac{e^{2t} - 1}{t} dt$ | | $\frac{2}{x}((1 - x)^{-1/2} - (1 + x)^{1/2})$ |
| 1 | 1.0 | 1.0 |
| 1/2 | .50000 00000 | .50000 00000 |
| 2/9 | .22222 22222 | .62500 00000 |
| 1/12 | .08333 33333 | .43750 00000 |
| 2/75 | .02666 66667 | .49218 75000 |
| 1/135 | .00740 74074 | .38671 87500 |
| 4/2205 | .00181 40590 | .41894 53125 |
| 1/2520 | .00039 68254 | .34912 10938 |
| 2/25515 | .00007 83853 | .37094 11621 |
| 1/70875 | .00001 41093 | .32035 82764 |
| $\frac{1}{x} \ln(1 + x)$ | | $\frac{2}{x}((1 + x)^{-1/2} - (1 - x)^{1/2})$ |
| 1 | 1.0 | 1.0 |
| -1/2 | -.50000 00000 | -.50000 00000 |
| 1/3 | .33333 33333 | .62500 00000 |
| -1/4 | -.25000 00000 | -.43750 00000 |
| 1/5 | .20000 00000 | .49218 75000 |
| -1/6 | -.16666 66667 | .38671 87500 |
| 1/7 | .14285 71429 | .41894 53125 |
| -1/8 | -.12500 00000 | .34912 10938 |
| 1/9 | .11111 11111 | .37094 11621 |
| -1/10 | -.10000 00000 | .32035 82764 |
| $2 \frac{d}{dx} F(1, 1+x)$ | Ref. 36 | $(1 + x)^{4/7}$ |
| 1 | 1.0 | 1.0 |
| 1/2 | .50000 00000 | .57142 85714 |
| -3/8 | -.37500 00000 | -.12244 89796 |
| 5/16 | .31250 00000 | .05830 90379 |
| -35/128 | -.27343 75000 | -.03540 19159 |
| 57/256 | .22265 62500 | .02427 55995 |
| -161/1024 | -.15722 65625 | -.01791 77044 |
| 189/2048 | .09228 51563 | .01389 53626 |
| -1395/32768 | -.04257 20215 | -.01116 59163 |
| 885/65536 | .01350 40283 | .00921 63119 |

(continued)

Table IV (continued)

| | |
|---|--|
| $(1 - x)^{4/7}$ | $(1 - x)^{3/5}$ |
| $\begin{array}{ll} 1 & 1.0 \\ -4/7 & -.57142 \ 85714 \\ -6/49 & -.12244 \ 89796 \\ -20/343 & -.05830 \ 90379 \\ -85/2401 & -.03540 \ 19159 \\ -408/16807 & -.02427 \ 55995 \\ -2108/117649 & -.01791 \ 77044 \\ -80104/5764801 & -.01389 \ 53626 \\ -450585/40353607 & -.01116 \ 59163 \\ -2603380/282475249 & -.00921 \ 63119 \end{array}$ | $\begin{array}{ll} 1 & 1.0 \\ -3/5 & -.60000 \ 00000 \\ -3/25 & -.12000 \ 00000 \\ -7/125 & -.05600 \ 00000 \\ -21/625 & -.03360 \ 00000 \\ -357/15625 & -.02284 \ 80000 \\ -1309/78125 & -.01675 \ 52000 \\ -5049/390625 & -.01292 \ 54400 \\ -20196/1953125 & -.01034 \ 03520 \\ -83028/9765625 & -.00850 \ 20672 \end{array}$ |
| $(1 - x)^{-4/7}$ | $(1 - x)^{-3/5}$ |
| $\begin{array}{ll} 1 & 1.0 \\ 4/7 & .57142 \ 85714 \\ 22/49 & .44897 \ 95918 \\ 132/343 & .38483 \ 96501 \\ 825/2401 & .34360 \ 68305 \\ 5280/16807 & .31415 \ 48164 \\ 34320/117649 & .29171 \ 51867 \\ 1578720/5764801 & .27385 \ 50732 \\ 10459020/40353607 & .25918 \ 42657 \\ 69726800/282475249 & .24684 \ 21578 \end{array}$ | $\begin{array}{ll} 1 & 1.0 \\ 3/5 & .60000 \ 00000 \\ 12/25 & .48000 \ 00000 \\ 52/125 & .41600 \ 00000 \\ 234/625 & .37440 \ 00000 \\ 5382/15625 & .34444 \ 80000 \\ 25116/78125 & .32148 \ 48000 \\ 118404/390625 & .30311 \ 42400 \\ 562419/1953125 & .28795 \ 85280 \\ 2687113/9765625 & .27516 \ 03712 \end{array}$ |
| $(1 + x)^{-4/7}$ | $(1 + x)^{-3/5}$ |
| $\begin{array}{ll} 1 & 1.0 \\ -4/7 & -.57142 \ 85714 \\ 22/49 & .44897 \ 95918 \\ -132/343 & .38483 \ 96501 \\ 825/2401 & .34360 \ 68305 \\ -5280/16807 & .31415 \ 48164 \\ 34320/117649 & .29171 \ 51867 \\ -1578720/5764801 & .27385 \ 50732 \\ 10459020/40353607 & .25918 \ 42657 \\ -69726800/282475249 & .24684 \ 21578 \end{array}$ | $\begin{array}{ll} 1 & 1.0 \\ -3/5 & -.60000 \ 00000 \\ 12/25 & .48000 \ 00000 \\ -52/125 & .41600 \ 00000 \\ 234/625 & .37440 \ 00000 \\ -5382/15625 & .34444 \ 80000 \\ 25116/78125 & .32148 \ 48000 \\ -118404/390625 & .30311 \ 42400 \\ 562419/1953125 & .28795 \ 85280 \\ -2687113/9765625 & .27516 \ 03712 \end{array}$ |
| $1 + \ln\Gamma(x + 1)$ | $(1 + x)^{5/8}$ |
| $\begin{array}{ll} 1 & 1.0 \\ -Y & -.57721 \ 56649 \\ \zeta(2)/2 & .82246 \ 70334 \\ -\zeta(3)/3 & -.40068 \ 56344 \\ \zeta(4)/4 & .27058 \ 08084 \\ -\zeta(5)/5 & -.20738 \ 55510 \\ \zeta(6)/6 & .16955 \ 71770 \\ -\zeta(7)/7 & -.14404 \ 98968 \\ \zeta(8)/8 & .12550 \ 96695 \\ -\zeta(9)/9 & -.11133 \ 42659 \end{array}$ | $\begin{array}{ll} 1 & 1.0 \\ 5/8 & .62500 \ 00000 \\ -15/128 & -.11718 \ 75000 \\ 55/1024 & .05371 \ 09375 \\ -1045/32768 & -.03189 \ 08691 \\ 5643/262144 & .02152 \ 63367 \\ -65835/4194304 & -.01569 \ 62872 \\ 404415/33554432 & .01205 \ 25062 \\ -20625165/2147483648 & -.00960 \ 43409 \\ 135209415/17179869184 & .00787 \ 02238 \end{array}$ |
| $(1 + x)^{3/5}$ | $(1 - x)^{5/8}$ |
| $\begin{array}{ll} 1 & 1.0 \\ 3/5 & .60000 \ 00000 \\ -3/25 & -.12000 \ 00000 \\ 7/125 & .05600 \ 00000 \\ -21/625 & -.03360 \ 00000 \\ 357/15625 & .02284 \ 80000 \\ -1309/78125 & -.01675 \ 52000 \\ 5049/390625 & .01292 \ 54400 \\ -20196/1953125 & -.01034 \ 03520 \\ 83028/9765625 & .00850 \ 20672 \end{array}$ | $\begin{array}{ll} 1 & 1.0 \\ -5/8 & .62500 \ 00000 \\ -15/128 & -.11718 \ 75000 \\ -55/1024 & .05371 \ 09375 \\ -1045/32768 & -.03189 \ 08691 \\ -5643/262144 & .02152 \ 63367 \\ -65835/4194304 & -.01569 \ 62872 \\ -404415/33554432 & .01205 \ 25062 \\ -20625165/2147483648 & -.00960 \ 43409 \\ -135209415/17179869184 & .00787 \ 02238 \end{array}$ |

(continued)

Table IV (continued)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------|-----|------|---------------|--------|---------------|-----------|---------------|-------------|---------------|---------------|---------------|-----------------|---------------|--------------------|---------------|----------------------|---------------|-------------------------|---------------|--|---|-----|------|---------------|-------|---------------|----------|---------------|-----------|---------------|-------------|---------------|--------------|---------------|------------------|---------------|-------------------|---------------|----------------------|---------------|
| $(1 - x)^{-5/8}$ | $(1 + x)^{-2/3}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table> <tbody> <tr><td>1</td><td>1.0</td></tr> <tr><td>5/8</td><td>.62500 00000</td></tr> <tr><td>65/128</td><td>.50781 25000</td></tr> <tr><td>455/1024</td><td>.44433 59375</td></tr> <tr><td>13195/32768</td><td>.40267 94434</td></tr> <tr><td>97643/262144</td><td>.37247 84851</td></tr> <tr><td>1464645/4194304</td><td>.34919 85798</td></tr> <tr><td>11089455/33554432</td><td>.33049 15130</td></tr> <tr><td>676456755/2147483648</td><td>.31499 97233</td></tr> <tr><td>5186168455/17179869184</td><td>.30187 47349</td></tr> </tbody> </table> | 1 | 1.0 | 5/8 | .62500 00000 | 65/128 | .50781 25000 | 455/1024 | .44433 59375 | 13195/32768 | .40267 94434 | 97643/262144 | .37247 84851 | 1464645/4194304 | .34919 85798 | 11089455/33554432 | .33049 15130 | 676456755/2147483648 | .31499 97233 | 5186168455/17179869184 | .30187 47349 | <table> <tbody> <tr><td>1</td><td>1.0</td></tr> <tr><td>-2/3</td><td>-.66666 66667</td></tr> <tr><td>5/9</td><td>.55555 55556</td></tr> <tr><td>-40/81</td><td>-.49382 71605</td></tr> <tr><td>110/243</td><td>.45267 48971</td></tr> <tr><td>-308/729</td><td>-.42249 65706</td></tr> <tr><td>2618/6561</td><td>.39902 45389</td></tr> <tr><td>-7480/19683</td><td>-.38002 33704</td></tr> <tr><td>21505/59049</td><td>.36418 90633</td></tr> <tr><td>-559130/1594323</td><td>-.35070 05795</td></tr> </tbody> </table> | 1 | 1.0 | -2/3 | -.66666 66667 | 5/9 | .55555 55556 | -40/81 | -.49382 71605 | 110/243 | .45267 48971 | -308/729 | -.42249 65706 | 2618/6561 | .39902 45389 | -7480/19683 | -.38002 33704 | 21505/59049 | .36418 90633 | -559130/1594323 | -.35070 05795 |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/8 | .62500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65/128 | .50781 25000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 455/1024 | .44433 59375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13195/32768 | .40267 94434 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97643/262144 | .37247 84851 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1464645/4194304 | .34919 85798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11089455/33554432 | .33049 15130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 676456755/2147483648 | .31499 97233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5186168455/17179869184 | .30187 47349 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -2/3 | -.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 110/243 | .45267 48971 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -308/729 | -.42249 65706 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2618/6561 | .39902 45389 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7480/19683 | -.38002 33704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21505/59049 | .36418 90633 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -559130/1594323 | -.35070 05795 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{-5/8}$ | $(1 + x)^{5/7}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/8 | -.62500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65/128 | .50781 25000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -455/1024 | -.44433 59375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13195/32768 | .40267 94434 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -97643/262144 | .37247 84851 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1464645/4194304 | .34919 85798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -11089455/33554432 | -.33049 15130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 676456755/2147483648 | .31499 97233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5186168455/17179869184 | -.30187 47349 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/7 | .71428 57143 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/49 | -.10204 08163 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15/343 | .04373 17784 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -60/2401 | -.02498 95877 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276/16807 | .01642 17290 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1380/117649 | -.01172 98065 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51060/5764801 | .00885 72008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -280830/40353607 | -.00695 92292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1591370/282475249 | .00563 36617 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{2/3}$ | $(1 - x)^{5/7}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2/3 | .66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1/9 | -.11111 11111 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/81 | .04938 27160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/243 | -.02880 65844 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14/729 | .01920 43896 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -91/6561 | -.01386 98369 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 208/19683 | .01056 74948 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -494/59049 | -.00836 59334 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10868/1594323 | .00681 66865 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/7 | -.71428 57143 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/49 | -.10204 08163 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -15/343 | -.04373 17784 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -60/2401 | -.02498 95877 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 276/16807 | .01642 17290 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1380/117649 | -.01172 98065 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51060/5764801 | .00885 72008 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -280830/40353607 | -.00695 92292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1591370/282475249 | .00563 36617 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{2/3}$ | $(1 - x)^{-5/7}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -2/3 | -.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1/9 | -.11111 11111 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -4/81 | -.04938 27160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/243 | -.02880 65844 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -14/729 | -.01920 43896 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -91/6561 | -.01386 98369 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -208/19683 | -.01056 74948 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -494/59049 | -.00836 59334 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -10868/1594323 | -.00681 66865 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/7 | .71428 57143 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30/49 | .61224 48980 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 190/343 | .55393 58601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1235/2401 | .51436 90129 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8151/16807 | .48497 64979 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54340/117649 | .46188 23789 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2553980/5764801 | .44303 00369 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17239365/40353607 | .42720 75356 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 116844585/282475249 | .41364 53916 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{-2/3}$ | $(1 + x)^{-5/7}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2/3 | .66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/9 | .55555 55556 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40/81 | .49382 71605 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110/243 | .45267 48971 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 308/729 | .42249 65706 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2618/6561 | .39902 45389 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7480/19683 | .38002 33704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21505/59049 | .36418 90633 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 559130/1594323 | .35070 05795 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/7 | -.71428 57143 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30/49 | .61224 48980 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -190/343 | -.55393 58601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1235/2401 | .51436 90129 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -8151/16807 | -.48497 64979 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54340/117649 | .46188 23789 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -2553980/5764801 | -.44303 00369 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17239365/40353607 | .42720 75356 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -116844585/282475249 | -.41364 53916 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(continued)

Table IV (continued)

| | |
|--|--|
| $(1 + x)^{3/4}$ | $(1 - x)^{4/5}$ |
| 1 3/4 -3/32 5/128 -45/2048 117/8192 -663/65536 1989/262144 -49725/8388608 160225/33554432 | 1.0 .75000 00000 -.09375 00000 .03906 25000 -.02197 26563 .01428 22266 -.01011 65771 .00758 74329 -.00592 76819 .00477 50771 |
| $(1 - x)^{3/4}$ | $(1 - x)^{-4/5}$ |
| 1 -3/4 -3/32 -5/128 -45/2048 -117/8192 -663/65536 -1989/262144 -49725/8388608 -160225/33554432 | 1.0 .75000 00000 -.09375 00000 .03906 25000 -.02197 26563 .01428 22266 -.01011 65771 .00758 74329 -.00592 76819 .00477 50771 |
| $(1 - x)^{-3/4}$ | $(1 + x)^{-4/5}$ |
| 1 3/4 21/32 77/128 1155/2048 4389/8192 33649/65536 129789/262144 4023459/8388608 15646785/33554432 | 1.0 .75000 00000 .65625 00000 .60156 25000 .56396 48438 .53576 66016 .51344 29932 .49510 57434 .47963 36889 .46631 05309 |
| $(1 + x)^{-3/4}$ | $(1 + x)^{5/6}$ |
| 1 -3/4 21/32 -77/128 1155/2048 -4389/8192 33649/65536 -129789/262144 4023459/8388608 -15646785/33554432 | 1.0 -.75000 00000 .65625 00000 -.60156 25000 .56396 48438 -.53576 66016 .51344 29932 -.49510 57434 .47963 36889 -.46631 05309 |
| $(1 + x)^{4/5}$ | $(1 - x)^{5/6}$ |
| 1 4/5 -2/25 4/125 -11/625 176/15625 -616/78125 2288/390625 -8866/1953125 35464/9765625 | 1.0 .80000 00000 -.08000 00000 .03200 00000 -.01760 00000 .01126 40000 -.01126 40000 .00788 48000 -.00585 72800 .00453 93920 -.00363 15136 |

(continued)

Table IV (continued)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------|-----|------|---------------|-------|---------------|-----------|---------------|-------------|---------------|----------------|---------------|-----------------|---------------|--------------------|---------------|-----------------------|---------------|---------------------------|---------------|---|---|-----|------|---------------|---------|---------------|-----------|---------------|-------------|---------------|----------------|---------------|-----------------|---------------|--------------------|---------------|-----------------------|---------------|--------------------------|---------------|
| $(1 - x)^{-5/6}$ | $(1 + x)^{-6/7}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/6 | .83333 33333 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55/72 | .76388 88889 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 935/1296 | .72145 06173 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21505/31104 | .69139 01749 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124729/186624 | .66834 38357 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4365515/6718464 | .64977 87292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25569445/40310784 | .63430 78071 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1201763915/1934917632 | .62109 30611 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63693487495/104485552128 | .60959 13377 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -6/7 | -.85714 28571 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39/49 | .79591 83673 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -260/343 | -.75801 74927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1755/2401 | .73094 54394 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11934/16807 | -.71006 12840 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81549/117649 | .69315 50629 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3914352/5764801 | -.67900 90412 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26911170/40353607 | .66688 38798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -185388060/282475249 | -.65629 84214 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{-5/6}$ | $(1 + x)^{7/8}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 55/72 | .76388 88889 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -935/1296 | -.72145 06173 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21505/31104 | .69139 01749 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -124729/186624 | -.66834 38357 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4365515/6718464 | .64977 87292 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -25569445/40310784 | -.63430 78071 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| -63693487495/104485552128 | .60959 13377 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/8 | .87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/128 | -.05468 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21/1024 | .02050 78125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -357/32768 | -.01089 47754 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1785/262144 | .00680 92346 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -19635/4194304 | -.00468 13488 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115005/33554432 | .00342 74161 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5635245/2147483648 | -.00262 41154 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35689885/17179869184 | .00207 74247 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{6/7}$ | $(1 - x)^{7/8}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6/7 | .85714 28571 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3/49 | -.06122 44898 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8/343 | .02332 36152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -30/2401 | -.01249 47938 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132/16807 | .00785 38704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -638/117649 | -.00542 29105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22968/5764801 | .00398 41792 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -123453/40353607 | -.00305 92804 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 685850/282475249 | .00242 80003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/8 | -.87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/128 | -.05468 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -21/1024 | -.02050 78125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -357/32768 | -.01089 47754 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1785/262144 | -.00680 92346 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -19635/4194304 | -.00468 13488 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -115005/33554432 | -.00342 74161 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5635245/2147483648 | -.00262 41154 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35689885/17179869184 | -.00207 74247 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{6/7}$ | $(1 - x)^{-7/8}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -6/7 | -.85714 28571 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3/49 | -.06122 44898 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -8/343 | -.02332 36152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -30/2401 | -.01249 47938 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -132/16807 | -.00785 38704 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -638/117649 | -.00542 29105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -22968/5764801 | -.00398 41792 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -123453/40353607 | -.00305 92804 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -685850/282475249 | -.00242 80003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/8 | .87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105/128 | .82031 25000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 805/1024 | .78613 28125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24955/32768 | .76156 61621 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 194649/262144 | .74252 70081 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3049501/4194304 | .72705 76954 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23960365/33554432 | .71407 45223 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1509502995/2147483648 | .70291 71078 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11908301405/17179869184 | .69315 43702 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{-6/7}$ | $(1 + x)^{-7/8}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6/7 | .85714 28571 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39/49 | .79591 83673 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 260/343 | .75801 74927 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1755/2401 | .73094 54394 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11934/16807 | .71006 12840 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81549/117649 | .69315 50629 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3914352/5764801 | .67900 90412 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26911170/40353607 | .66688 38798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 185388060/282475249 | .65629 84214 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/8 | -.87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105/128 | .82031 25000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -805/1024 | -.78613 28125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24955/32768 | .76156 61621 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -194649/262144 | -.74252 70081 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3049501/4194304 | .72705 76954 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -23960365/33554432 | -.71407 45223 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1509502995/2147483648 | .70291 71078 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -11908301405/17179869184 | -.69315 43702 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(continued)

Table IV (continued)

| | | | |
|---|--|--|---|
| Ei(x) - γ + 1 - ln x | Ref. 9,10 | e ^x | |
| 1 1 1/4 1/18 1/96 1/600 1/4320 1/35280 1/322560 1/3265920 | 1.0 1.00000 00000 .25000 00000 .05555 55556 .01041 66667 .00166 66667 .00023 14815 .00002 83447 .00000 31002 .00000 03062 | 1 1 1/2 1/6 1/24 1/120 1/720 1/5040 1/40320 1/362880 | 1.0 1.00000 00000 .50000 00000 .16666 66667 .04166 66667 .00833 33333 .00138 88889 .00019 84127 .00002 48016 .00000 27557 |
| E ₁ (x) + 1 + γ + ln x | Ref. 9,10 | e ^{arctan x} | |
| 1 -1 1/4 -1/18 1/96 -1/600 1/4320 -1/35280 1/322560 -1/3265920 | 1.0 -1.00000 00000 .25000 00000 -.05555 55556 .01041 66667 -.00166 66667 .00023 14815 -.00002 83447 | 1 1 1/2 -1/6 -7/24 | 1.0 1.00000 00000 .50000 00000 -.16666 66667 -.29166 66667 .04166 66667 .20138 88889 -.00099 20635 -.15116 56746 -.01602 67894 |
| 1 - ∫ ₀ ^x ln(1-t)/t dt | | e ^{arcsin x} | |
| 1 1 1/4 1/9 1/16 1/25 1/36 1/49 1/64 1/81 | 1.0 1.00000 00000 .25000 00000 .11111 11111 .06250 00000 .04000 00000 .02777 77778 .02040 81633 .01562 50000 .01234 56790 | 1 1 1/2 1/3 5/24 1/6 17/144 13/126 629/8064 325/4536 | 1.0 1.00000 00000 .50000 00000 .33333 33333 .20833 33333 .16666 66667 .11805 55556 .10317 46032 .07800 09921 .07164 90300 |
| e ^{sin x} | | e ^{tan x} | |
| 1 1 1/2 0 -1/8 -1/15 -1/240 1/90 31/5760 1/5670 | 1.0 1.00000 00000 .50000 00000 .0 -.12500 00000 -.06666 66667 -.00416 66667 .01111 11111 .00538 19444 .00017 63668 | 1 1 1/2 1/2 3/8 37/120 59/240 137/720 871/5760 41641/362880 | 1.0 1.00000 00000 .50000 00000 .50000 00000 .37500 00000 .30833 33333 .24583 33333 .19027 77778 .15121 52778 .11475 14330 |
| - $\frac{1}{x^2} \psi''(\frac{1}{x})$ | Ref. 1 | F(l, l + 2x) | |
| 1 1 1/2 0 -1/6 0 1/6 0 -3/10 0 | 1.0 1.00000 00000 .50000 00000 .0 -.16666 66667 .0 .16666 66667 .0 -.30000 00000 .0 | 1 1 1/2 -1/2 5/8 -7/8 19/16 -23/16 189/128 -105/128 | 1.0 1.00000 00000 .50000 00000 -.50000 00000 .62500 00000 -.87500 00000 1.18750 00000 -.143750 00000 |

(continued)

Table IV (continued)

| | |
|---|---|
| $(\frac{1}{x} \ln(1+x))^2$ | $\frac{1}{(1-x)(1-x^2)}$ |
| 1 -1 11/12 -5/6 137/180 -7/10 363/560 -761/1260 7129/12600 -671/1260 | 1.0 -1.00000 00000 .91666 66667 -.83333 33333 .76111 11111 -.70000 00000 .64821 42857 -.60396 82540 .56579 36508 -.53253 96825 |
| e^{x-1} | $1 + \frac{x}{(1-x)^2}$ |
| 1 1 1 5/6 5/8 13/30 203/720 877/5040 23/224 1007/17280 | 1.0 1.00000 00000 1.00000 00000 .83333 33333 .62500 00000 .43333 33333 .28194 44444 .17400 79365 .10267 85714 .05827 54630 |
| $(1-x)^{-1}$ | $(1+x)^{8/7}$ |
| 1 1 1 1 1 1 1 1 1 1 | 1.0 1.14285 71429 .08163 26531 -.02332 36152 .01082 88213 -.00618 78979 .00397 79344 -.00276 01994 .00202 08602 -.00153 97030 |
| $(1+x)^{-1}$ | $(1-x)^{8/7}$ |
| 1 -1 1 -1 1 -1 1 -1 1 -1 | 1.0 -1.14285 71429 .08163 26531 -.02332 36152 .01082 88213 -.00618 78979 .00397 79344 -.00276 01994 .00202 08602 -.00153 97030 |
| $\frac{d}{dx} F(1, 1+2x)$ | $(1-x)^{-8/7}$ |
| Ref. 36 | |
| 1 1 -3/2 5/2 -35/8 57/8 -161/16 189/16 -1395/128 885/128 | 1.0 1.00000 00000 -1.50000 00000 2.50000 00000 -4.37500 00000 7.12500 00000 -10.06250 00000 11.81250 00000 -10.89843 75000 6.91406 25000 |

(continued)

Table IV (continued)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------|-----|------|----------------|-------|---------------|------------|----------------|-------------|---------------|----------------|----------------|-----------------|---------------|--------------------|----------------|-----------------------|---------------|----------------------------|----------------|---|---|-----|------|----------------|-------|---------------|----------|----------------|---------|---------------|--------------|----------------|--------------|---------------|----------------|----------------|-----------------|---------------|-------------------|----------------|
| $(1 + x)^{-8/7}$ | $(1 + x)^{6/5}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -8/7 | -1.14285 71429 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60/49 | 1.22448 97959 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -440/343 | -1.28279 88338 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3190/2401 | 1.32861 30779 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 58640175/40353607 | 1.45315 82022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6/5 | 1.20000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/25 | .12000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -4/125 | -.03200 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9/625 | .01440 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -126/15625 | -.00806 40000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 399/78125 | .00510 72000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 4959/1953125 | .00253 90080 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -18734/9765625 | -.00191 83616 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{7/6}$ | $(1 - x)^{6/5}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 3/25 | .12000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/125 | .03200 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9/625 | .01440 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126/15625 | .00806 40000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 399/78125 | .00510 72000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1368/390625 | .00350 20800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4959/1953125 | .00253 90080 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18734/9765625 | .00191 83616 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{7/6}$ | $(1 - x)^{-6/5}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 4365515/1934917632 | .00225 61761 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 178986115/104485552128 | .00171 30226 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6/5 | 1.20000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33/25 | 1.32000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 176/125 | 1.40800 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 924/625 | 1.47840 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24024/15625 | 1.53753 60000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124124/78125 | 1.58878 72000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 638352/390625 | 1.63418 11200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3271554/1953125 | 1.67503 56480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16721276/9765625 | 1.71225 86624 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{-7/6}$ | $(1 + x)^{-6/5}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 91/72 | 1.26388 88889 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1729/1296 | 1.33410 49383 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 9915815/6718464 | 1.47590 50581 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60911435/40310784 | 1.51104 56547 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2984660315/1934917632 | 1.54252 57725 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 164156317325/104485552128 | 1.57109 10646 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -6/5 | -1.20000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33/25 | 1.32000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -176/125 | -1.40800 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 924/625 | 1.47840 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -24024/15625 | -1.53753 60000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| -638352/390625 | -1.63418 11200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3271554/1953125 | 1.67503 56480 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -16721276/9765625 | -1.71225 86624 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{-7/6}$ | $(1 + x)^{5/4}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/6 | -1.16666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 91/72 | 1.26388 88889 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1729/1296 | -1.33410 49383 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43225/31104 | 1.38969 26440 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -267995/186624 | -1.43601 57322 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9915815/6718464 | 1.47590 50581 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -60911435/40310784 | -1.51104 56547 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2984660315/1934917632 | 1.54252 57725 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -164156317325/104485552128 | -1.57109 10646 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/4 | 1.25000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/32 | .15625 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/128 | -.03906 25000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35/2048 | .01708 98438 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -77/8192 | -.00939 94141 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 385/65536 | .00587 46338 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1045/262144 | -.00398 63586 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24035/8388608 | .00286 51953 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -72105/33554432 | -.00214 88965 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(continued)

Table IV (continued)

| | |
|--|---|
| $(1 - x)^{5/4}$ | $(1 - x)^{-4/3}$ |
| 1 -5/4 5/32 5/128 35/2048 77/8192 385/65536 1045/262144 24035/8388608 72105/33554432 | 1.0 -1.25000 00000 .15625 00000 .03906 25000 .01708 98438 .00939 94141 .00587 46338 .00398 63586 .00286 51953 .00214 88965 |
| $(1 - x)^{-5/4}$ | $(1 + x)^{-4/3}$ |
| 1 5/4 45/32 195/128 3315/2048 13923/8192 116025/65536 480675/262144 15862275/8388608 65211575/33554432 | 1.0 1.25000 00000 1.40625 00000 1.52343 75000 1.61865 23438 1.69958 49609 1.77040 10010 1.83362 96082 1.89093 05334 1.94345 63816 |
| $(1 + x)^{-5/4}$ | $(1 + x)^{7/5}$ |
| 1 -5/4 45/32 -195/128 3315/2048 -13923/8192 116025/65536 -480675/262144 15862275/8388608 -65211575/33554432 | 1.0 -1.25000 00000 1.40625 00000 -1.52343 75000 1.61865 23438 -1.69958 49609 1.77040 10010 -1.83362 96082 1.89093 05334 -1.94345 63816 |
| $(1 + x)^{4/3}$ | $(1 - x)^{7/5}$ |
| 1 4/3 2/9 -4/81 5/243 -8/729 44/6561 -88/19683 187/59049 -3740/1594323 | 1.0 1.33333 33333 .22222 22222 -.04938 27160 .02057 61317 -.01097 39369 .00670 62948 -.00447 08632 |
| $(1 - x)^{4/3}$ | $(1 - x)^{-7/5}$ |
| 1 -4/3 2/9 4/81 5/243 | 1.0 -1.33333 33333 .22222 22222 .04938 27160 .02057 61317 .01097 39369 .00670 62948 .00447 08632 |

(continued)

Table IV (continued)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------|-----|------|----------------|-------|---------------|----------|----------------|----------|---------------|--------------|----------------|--------------|---------------|----------------|----------------|-----------------|---------------|-------------------|----------------|--|---|-----|------|----------------|-------|---------------|---------|----------------|---------|---------------|-----------|----------------|------------|---------------|--------------|----------------|---------------|---------------|------------------|----------------|
| $(1 + x)^{-7/5}$ | $(1 + x)^{5/3}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table> <tbody> <tr><td>1</td><td>1.0</td></tr> <tr><td>-7/5</td><td>-1.40000 00000</td></tr> <tr><td>42/25</td><td>1.68000 00000</td></tr> <tr><td>-238/125</td><td>-1.90400 00000</td></tr> <tr><td>1309/625</td><td>2.09440 00000</td></tr> <tr><td>-35343/15625</td><td>-2.26195 20000</td></tr> <tr><td>188496/78125</td><td>2.41274 88000</td></tr> <tr><td>-996336/390625</td><td>-2.55062 01600</td></tr> <tr><td>5230764/1953125</td><td>2.67815 11680</td></tr> <tr><td>-27316212/9765625</td><td>-2.79718 01088</td></tr> </tbody> </table> | 1 | 1.0 | -7/5 | -1.40000 00000 | 42/25 | 1.68000 00000 | -238/125 | -1.90400 00000 | 1309/625 | 2.09440 00000 | -35343/15625 | -2.26195 20000 | 188496/78125 | 2.41274 88000 | -996336/390625 | -2.55062 01600 | 5230764/1953125 | 2.67815 11680 | -27316212/9765625 | -2.79718 01088 | <table> <tbody> <tr><td>1</td><td>1.0</td></tr> <tr><td>5/3</td><td>1.66666 66667</td></tr> <tr><td>5/9</td><td>.55555 55556</td></tr> <tr><td>-5/81</td><td>-.06172 83951</td></tr> <tr><td>5/243</td><td>.02057 61317</td></tr> <tr><td>-7/729</td><td>-.00960 21948</td></tr> <tr><td>35/6561</td><td>.00533 45527</td></tr> <tr><td>-65/19683</td><td>-.00330 23421</td></tr> <tr><td>130/59049</td><td>.00220 15614</td></tr> <tr><td>-2470/1594323</td><td>-.00154 92469</td></tr> </tbody> </table> | 1 | 1.0 | 5/3 | 1.66666 66667 | 5/9 | .55555 55556 | -5/81 | -.06172 83951 | 5/243 | .02057 61317 | -7/729 | -.00960 21948 | 35/6561 | .00533 45527 | -65/19683 | -.00330 23421 | 130/59049 | .00220 15614 | -2470/1594323 | -.00154 92469 |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/5 | -1.40000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42/25 | 1.68000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -238/125 | -1.90400 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1309/625 | 2.09440 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -35343/15625 | -2.26195 20000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 188496/78125 | 2.41274 88000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -996336/390625 | -2.55062 01600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5230764/1953125 | 2.67815 11680 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -27316212/9765625 | -2.79718 01088 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/3 | 1.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/9 | .55555 55556 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/81 | -.06172 83951 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/243 | .02057 61317 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/729 | -.00960 21948 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35/6561 | .00533 45527 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -65/19683 | -.00330 23421 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130/59049 | .00220 15614 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -2470/1594323 | -.00154 92469 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{3/2}$ | $(1 - x)^{5/3}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/2 | 1.50000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | .37500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -1/16 | -.06250 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/128 | .02343 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3/256 | -.01171 87500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/1024 | .00683 59375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -9/2048 | -.00439 45313 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99/32768 | .00302 12402 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -143/65536 | -.00218 20068 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/3 | -1.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/9 | .55555 55556 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/81 | .06172 83951 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/243 | .02057 61317 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/729 | .00960 21948 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35/6561 | .00533 45527 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65/19683 | .00330 23421 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130/59049 | .00220 15614 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2470/1594323 | .00154 92469 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 - x)^{3/2}$ | $(1 - x)^{-5/3}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3/2 | -1.50000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8 | .37500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1/16 | .06250 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/128 | .02343 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/256 | .01171 87500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/1024 | .00683 59375 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9/2048 | .00439 45313 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99/32768 | .00302 12402 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143/65536 | .00218 20068 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5/3 | 1.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20/9 | 2.22222 22222 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220/81 | 2.71604 93827 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 770/243 | 3.16872 42798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2618/729 | 3.59122 08505 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26180/6561 | 3.99024 53894 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 86020/19683 | 4.37026 87598 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 279565/59049 | 4.73445 78232 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8107385/1594323 | 5.08515 84027 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/2 | 1.50000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15/8 | 1.87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35/16 | 2.18750 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315/128 | 2.46093 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 693/256 | 2.70703 12500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3003/1024 | 2.93261 71875 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6435/2048 | 3.14208 98438 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109395/32768 | 3.33847 04590 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230945/65536 | 3.52394 10400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -5/3 | -1.66666 66667 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20/9 | 2.22222 22222 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -220/81 | -2.71604 93827 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 770/243 | 3.16872 42798 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -2618/729 | -3.59122 08505 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26180/6561 | 3.99024 53894 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -86020/19683 | -4.37026 87598 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 279565/59049 | 4.73445 78232 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -8107385/1594323 | -5.08515 84027 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $(1 + x)^{-3/2}$ | $(1 + x)^{7/4}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -3/2 | -1.50000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15/8 | 1.87500 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -35/16 | -2.18750 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315/128 | 2.46093 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -693/256 | -2.70703 12500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3003/1024 | 2.93261 71875 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -6435/2048 | -3.14208 98438 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109395/32768 | 3.33847 04590 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -230945/65536 | -3.52394 10400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7/4 | 1.75000 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21/32 | .65625 00000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -7/128 | -.05468 75000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35/2048 | .01708 98438 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -63/8192 | -.00769 04297 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 273/65536 | .00416 56494 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -663/262144 | -.00252 91443 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13923/8388608 | .00165 97509 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -38675/33554432 | -.00115 26048 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(continued)

Table IV (continued)

| | |
|---|---|
| $(1 - x)^{7/4}$ | $(1 - x)^{-11/6}$ |
| 1 -7/4 21/32 7/128 35/2048 63/8192 273/65536 663/262144 13923/8388608 38675/33554432 | 1.0 -1.75000 00000 .65625 00000 .05468 75000 .01708 98438 .00769 04297 .00416 56494 .00252 91443 .00165 97509 .00115 26048 |
| $(1 - x)^{-7/4}$ | $(1 + x)^{-11/6}$ |
| 1 7/4 77/32 385/128 7315/2048 33649/8192 302841/65536 1341153/262144 46940355/8388608 203408205/33554432 | 1.0 1.75000 00000 2.40625 00000 3.00781 25000 3.57177 73438 4.10754 39453 4.62098 69385 5.11609 26819 5.59572 63708 6.06203 69017 |
| $(1 + x)^{-7/4}$ | $\frac{1 + 2x}{1 - x^2}$ |
| 1 -7/4 77/32 -385/128 7315/2048 -33649/8192 302841/65536 -1341153/262144 46940355/8388608 -203408205/33554432 | 1.0 -1.75000 00000 2.40625 00000 -3.00781 25000 3.57177 73438 -4.10754 39453 4.62098 69385 -5.11609 26819 5.59572 63708 -6.06203 69017 |
| $(1 + x)^{11/6}$ | $\frac{1 + 2x + 3x^2}{1 - x^3}$ |
| 1 11/6 55/72 -55/1296 385/31104 -1001/186624 19019/6718464 -67925/40310784 2105675/1934917632 -77909975/104485552128 | 1.0 1.83333 33333 .76388 88889 -.04243 82716 .01237 78292 -.00536 37260 .00283 08554 -.00168 50330 .00108 82505 -.00074 56531 |
| $(1 - x)^{11/6}$ | $\frac{1 + x + 2x^2}{(1 - x)(1 + x^2)}$ |
| 1 -11/6 55/72 55/1296 385/31104 1001/186624 19019/6718464 67925/40310784 2105675/1934917632 77909975/104485552128 | 1.0 -1.83333 33333 .76388 88889 .04243 82716 .01237 78292 .00536 37260 .00283 08554 .00168 50330 .00108 82505 .00074 56531 |

(continued)

Table IV (continued)

| | |
|---|---|
| $\frac{1}{(1-x)^2}$ | $(1-x)^{7/3}$ |
| 1 2 3 4 5 6 7 8 9 10 | 1.0 -2.33333 33333 1.55555 55556 -.17283 95062 -.02880 65844 .00960 21948 -.00426 76421 .00223 54316 -.00130 40018 .00082 10381 |
| $\frac{1}{(1+x)^2}$ | $(1-x)^{-7/3}$ |
| 1 -2 3 -4 5 -6 7 -8 9 -10 | 1.0 2.33333 33333 3.88888 88889 5.61728 39506 7.48971 19342 9.48696 84499 11.59518 36610 13.80379 00727 16.10442 17514 18.49026 20109 |
| $\frac{1+x+x^2}{(1+x)(1-x)^2}$ | $(1+x)^{-7/3}$ |
| 1 2 4 5 7 8 10 11 13 14 | 1.0 -2.33333 33333 3.88888 88889 -5.61728 39506 7.48971 19342 -9.48696 84499 11.59518 36610 -13.80379 00727 16.10442 17514 -18.49026 20109 |
| $\frac{1}{1-2x}$ | $(1+x)^{5/2}$ |
| 1 2 4 8 16 32 64 128 256 512 | 1.0 2.50000 00000 1.87500 00000 .31250 00000 -.03906 25000 .01171 87500 -.00488 28125 .00244 14063 -.00137 32910 .00083 92334 |
| $(1+x)^{7/3}$ | $(1-x)^{5/2}$ |
| 1 7/3 14/9 14/81 -7/243 7/729 -28/6561 44/19683 -77/59049 1309/1594323 | 1.0 -2.50000 00000 1.87500 00000 -.31250 00000 -.03906 25000 -.01171 87500 -.00488 28125 -.00244 14063 -.00137 32910 -.00083 92334 |

(continued)

Table IV (continued)

| | |
|--|---|
| $(1 - x)^{-5/2}$ | $(1 + x)^{7/2}$ |
| 1 5/2 35/8 105/16 1155/128 3003/256 15015/1024 36465/2048 692835/32768 1616615/65536 | 1.0 2.50000 00000 4.37500 00000 6.56250 00000 9.02343 75000 11.73046 87500 14.66308 59375 17.80517 57813 21.14364 62402 24.66758 72803 |
| $(1 + x)^{-5/2}$ | $(1 - x)^{7/2}$ |
| 1 -5/2 35/8 -105/16 1155/128 -3003/256 15015/1024 -36465/2048 692835/32768 -1616615/65536 | 1.0 -2.50000 00000 4.37500 00000 -6.56250 00000 9.02343 75000 -11.73046 87500 14.66308 59375 -17.80517 57813 21.14364 62402 -24.66758 72803 |
| $\frac{1+x}{(1-x)^2}$ | $(1 - x)^{-7/2}$ |
| 1 3 5 7 9 11 13 15 17 19 | 1.0 3.50000 00000 7.87500 00000 14.43750 00000 23.46093 75000 35.19140 62500 49.85449 21875 67.65966 79688 88.80331 42090 113.47090 14893 |
| $\frac{1}{(1-x)^3}$ | $(1 + x)^{-7/2}$ |
| 1 3 6 10 15 21 28 36 45 55 | 1.0 -3.50000 00000 7.87500 00000 -14.43750 00000 23.46093 75000 -35.19140 62500 49.85449 21875 -67.65966 79688 88.80331 42090 -113.47090 14893 |
| $\frac{1}{(1+x)^3}$ | $\frac{1+x}{(1-x)^3}$ |
| 1 -3 6 -10 15 -21 28 -36 45 -55 | 1 4 9 16 25 36 49 64 81 100 |

(continued)

Table IV (continued)

| | |
|--|---|
| $\frac{1}{(1-x)^4}$ | $\frac{1+4x+x^2}{(1-x)^4}$ |
| 1 4 10 20 35 56 84 120 165 220 | 1 8 27 64 125 216 343 512 729 1000 |
| $\frac{1}{(1+x)^4}$ | $\frac{1}{(1+x)^8}$ |
| 1 -4 10 -20 35 -56 84 -120 165 -220 | 1 -8 36 -120 330 -792 1716 -3432 6435 -11440 |
| $\frac{1}{(1+x)^5}$ | $\frac{1+6x+x^2}{(1-x)^3}$ |
| 1 -5 15 -35 70 -126 210 -330 495 -715 | 1 9 25 49 81 121 169 225 289 361 |
| $\frac{1}{(1+x)^6}$ | $\frac{1}{(1+x)^9}$ |
| 1 -6 21 -56 126 -252 462 -792 1287 -2002 | 1 -9 45 -165 495 -1287 3003 -6435 12870 -24310 |
| $\frac{1}{(1+x)^7}$ | $\frac{1}{(1+x)^{10}}$ |
| 1 -7 28 -84 210 -462 924 -1716 3003 -5005 | 1 -10 55 -220 715 -2002 5005 -11440 24310 -48620 |

(continued)

Table IV (continued)

| | |
|---|--|
| $\frac{1}{(1+x)^{11}}$ | $\frac{1}{(1+x)^{16}}$ |
| 1 -11 66 -286 1001 -3003 8008 -19448 43758 -92378 | 1 -16 136 -816 3876 -15504 54264 -170544 490314 -1307504 |
| $\frac{1}{(1+x)^{12}}$ | $\frac{1}{(1+x)^{17}}$ |
| 1 -12 78 -364 1365 -4368 12376 -31824 75582 -167960 | 1 -17 153 -969 4845 -20349 74613 -245157 735471 -2042975 |
| $\frac{1}{(1+x)^{13}}$ | $\frac{1}{(1+x)^{18}}$ |
| 1 -13 91 -455 1820 -6188 18564 -50388 125970 -293930 | 1 -18 171 -1140 5985 -26334 100947 -346104 1081575 -3124550 |
| $\frac{1}{(1+x)^{14}}$ | $\frac{1}{(1+x)^{19}}$ |
| 1 -14 105 -560 2380 -8568 27132 -77520 203490 -497420 | 1 -19 190 -1330 7315 -33649 134596 -480700 1562275 -4686825 |
| $\frac{1}{(1+x)^{15}}$ | $\frac{1}{(1+x)^{20}}$ |
| 1 -15 120 -680 3060 -11628 38760 -116280 319770 -817190 | 1 -20 210 -1540 8855 -42504 177100 -657800 2220075 -6906900 |

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6. S. Ramanujan, Quarterly J. of Pure and Applied Math. 45, 350 (1913-14).
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8. $\zeta(x) = \sum_{k=1}^{\infty} k^{-x}$ See Ref. 1, page 807

$$\eta(x) = \sum_{k=1}^{\infty} (-1)^{k-1} k^{-x} = (1 - 2^{1-x})\zeta(x)$$

$$\lambda(x) = \sum_{k=0}^{\infty} (2k+1)^{-x} = (1 - 2^{-x})\zeta(x)$$

$$\beta(x) = \sum_{k=0}^{\infty} (-1)^k (2k+1)^{-x}$$

9. Exponential integral See Ref. 1, pages 228-233

$$E_n(x) = x^{n-1} \int_x^{\infty} \frac{e^{-t}}{t^n} dt$$

$$Ei(x) = \int_{-\infty}^x \frac{e^{-t}}{t} dt$$

Sine integral

$$Si(x) = \int_0^x \frac{\sin t}{t} dt$$

Cosine integral

$$Ci(x) = \int_0^x \frac{\cos t - 1}{t} dt + \gamma + \ln x$$

Hyperbolic sine integral

$$\text{Shi}(x) = \int_0^x \frac{\sinh t}{t} dt = \frac{\text{Ei}(x) + \text{E}_1(x)}{2}$$

Hyperbolic cosine integral

$$\text{Chi}(x) = \int_0^x \frac{\cosh t - 1}{t} dt + \gamma + \ln x = \frac{\text{Ei}(x) - \text{E}_1(x)}{2}$$

10. $0.57721 \dots = \gamma$ = Euler's constant

$$= \lim_{n \rightarrow \infty} (1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{n} - \ln n)$$

See Ref. 1 or 2

11. $0.26149 \dots = g = \lim_{p \rightarrow \infty} (\frac{1}{2} + \frac{1}{3} + \frac{1}{5} + \dots + \frac{1}{p} - \ln \ln p)$ p = primes

See Ref. 2

12. $0.83242 \dots = D_\infty$ See Ref. 2

$$0.18340 \dots = -\ln D_\infty$$

$$= \lim_{p \rightarrow \infty} (\ln(\frac{3}{1} \cdot \frac{5}{3} \cdots \frac{p}{p-2}) - 2 \ln \ln p)$$

where p = odd primes

13. $1.70195 \dots$ This value is given by C. E. Fröberg, BIT 1, 20 (1961).

Carrying the calculation to 1979681 gives 1.70213.

14. $0.59263 \dots$ = Lehmer's constant, ξ

$\xi = \cot(\arccot 0 - \arccot 1 + \arccot 3 - \arccot 13 + \arccot 183 - \arccot 33673 + \dots)$. See D. H. Lehmer, Duke Math. Soc. 4, 334 (1938).

15. $[a_0, a_1, a_2, \dots]$ is the continued fraction formed with the terms shown. See Ref. 1, page 19, or A. Ya. Khintchine, Ref. 16.

16. Khintchine's constant

$$2.68545 \dots = K = \prod_{n=1}^{\infty} \left(1 + \frac{1}{n^2 + 2n} \right)^{(\ln n)/\ln 2}$$

See A. Ya. Khintchine, Continued Fractions, P. Noordhoff, Ltd. The Netherlands, 1963, and also J. W. Wrench, Jr., "Further Evaluation of Khintchine's Constant", Math. Comp. 14, 370 (1960).

17. $2.30384 \dots$ The integer terms a_i of the continued fraction are the largest possible such that for all n ,

$$\prod_n < K^{n+1}$$

$$\text{where } \prod_n = \prod_{i=0}^n a_i$$

and K = Khintchine's constant, Ref. 16.

The recursion formula is

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right]$$

where $a_0 = \Pi_0 = 2$ and $[x] =$ largest integer less than x .

18. $3.30384 \dots$ The integer terms a_i of the continued fraction are the smallest possible such that for all n ,

$$\Pi_n > K^{n+1}$$

$$\text{where } \Pi_n = \prod_{i=0}^n a_i$$

and K = Khintchine's constant, Ref. 16.

The recursion formula is

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right] + 1$$

where $a_0 = \Pi_0 = 3$ and $[x] =$ largest integer less than x .

19. $2.22475 \dots$ The integer terms a_i of the continued fraction are such that for all n , Π_n is just less than K^{n+1} when n is even and just greater than K^{n+1} when n is odd. The recursion formulas are

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right] + 1 \quad n \text{ even}$$

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right] \quad n \text{ odd}$$

$a_0 = \Pi_0 = 2$, $\Pi_n = \prod_{i=0}^n a_i$, $[x] = \text{largest integer less than } x$ and
 $K = \text{Khintchine's constant, Ref. 16.}$

20. $3.44935 \dots$ The integer terms a_i of the continued fraction are such that for all n , Π_n is just greater than K^{n+1} when n is even and just less than K^{n+1} when n is odd. The recursion formulas are

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right] \quad n \text{ even}$$

$$a_{n+1} = \left[\frac{K^{n+2}}{\Pi_n} \right] + 1 \quad n \text{ odd}$$

$a_0 = \Pi_0 = 3$, $\Pi_n = \prod_{i=0}^n a_i$, $[x] = \text{largest integer less than } x$, and
 $K = \text{Khintchine's constant, Ref. 16.}$

21. Du Bois-Reymond Constant

$$C_n = \int_0^\infty \left| \frac{d}{dt} (\sin t/t)^n \right| dt - 1 \quad \text{See Ref. 2}$$

$$C_2 = 0.19452 \dots$$

$$C_3 = 0.02825 \dots$$

$$C_4 = 0.00524 \dots$$

$$C_6 = 0.00022 \dots$$

22. $1.52173 \dots = C = \prod_p (1 - 1/p)^{-2} (1 - (2 + u(p))/p)$

$$u(p) = -1 \text{ if } p \equiv -1 \pmod{3}$$

$$= 0 \text{ if } p \equiv 0 \pmod{3}$$

$$= 1 \text{ if } p \equiv 1 \pmod{3}$$

$p = \text{all primes}$

23. $C_n = \prod_{p>n} \left[\left(\frac{p}{p-1} \right)^{n-1} \left(\frac{p-n}{p-1} \right) \right] \quad p = \text{primes} > n$

$C_2 = 0.66016 \dots$ Twin-prime constant.

$C_3 = 0.63516 \dots$ See Ref. 2 and also

$C_4 = 0.30749 \dots$ J. W. Wrench, Jr., Math. Comp. 15, 396 (1961).

$0.37395 \dots = A = \prod_p (1 - 1/(p^2 - p)) \quad p = \text{all primes}$

$A = \text{Artin's constant}$

24. The terms p are primes of the form $3n \pm 1$. The sign is + if $p = 3n - 1$.

See Ref. 7.

25. The terms p are primes of the form $4n \pm 1$. The sign is + if $p = 4n - 1$.

See Ref. 7.

26. The terms are primes of the form $4n + 1$.

27. The terms are primes of the form $4n - 1$.
28. The terms p are primes of the form $6n \pm 1$. The sign is + if $p = 6n - 1$.
See Ref. 7.
For $0.14194 \dots$ Glaisher gives $0.14194 \ 48385 \underline{33}$.
For $0.64194 \dots$ Glaisher gives $0.64194 \ 48385 \underline{33}$.
29. The terms p are primes of the form $12n \pm 1$. The sign is + if $p = 12n - 1$.
See Ref. 7.
30. The terms p are primes of the form $12n \pm 5$. The sign is + if $p = 12n + 5$.
See Ref. 7.
For $0.07014 \dots$ Glaisher gives $0.07014 \ 84232 \underline{83}$.
31. The terms are taken from the Fibonacci sequence $0, 1, 1, 2, 3, 5, 8, 13, \dots$.
$$F_{i+2} = F_{i+1} + F_i \quad F_0 = 0 \quad F_1 = 1$$
32. $2.35973 \dots = \phi_1 = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{5} + \frac{1}{8} + \dots$
 $0.71085 \dots = \phi_2 = 1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{5} + \frac{1}{8} - \dots$
- The terms are Fibonacci numbers. See Ref. 31.
33. $a_{n+1} = 1 + n + \binom{n}{2}a_2 + \binom{n}{3}a_3 + \dots + a_n$
 $a_0 = a_1 = 1 \quad a_2 = 2 \quad a_3 = 5 \quad a_4 = 15$

The function a_n resulted from a problem involving cable splicing suggested by Prof. J. R. Woodyard. A solution in the form a_n was provided by Prof. Herbert Robbins.

34. Planck's radiation function is

$$y = x^{-5} \left(e^{1/x} - 1 \right)^{-1}$$

0.20140 ... = x makes y a maximum

21.20143 ... is maximum value of y

35. Dawson's integral $D(x) = e^{-x^2} \int_0^x e^{t^2} dt$ See Ref. 1, page 298

0.42768 ... is value of D at inflection point

1.50197 ... is value of x at inflection point

0.54104 ... is maximum value of D, = D_{\max}

0.92413 ... is value of x at D_{\max} , = $1/(2 D_{\max})$

36. $F(A, B) = \lim_{n \rightarrow \infty} a_n = \lim_{n \rightarrow \infty} b_n$

where

$$a_{n+1} = \frac{a_n + b_n}{2}$$

$$b_{n+1} = \frac{a_n^2 + b_n^2}{a_n + b_n}$$

$$a_0 = A, b_0 = B$$

37. Arithmetic-Geometric mean of Gauss

$$G(A, B) = \lim_{n \rightarrow \infty} a_n = \lim_{n \rightarrow \infty} b_n$$

where

$$a_{n+1} = \frac{a_n + b_n}{2}$$

$$b_{n+1} = \sqrt{a_n b_n}$$

$$a_0 = A, b_0 = B$$

38. $H(A, B) = \lim_{n \rightarrow \infty} a_n = \lim_{n \rightarrow \infty} b_n$

where

$$a_{n+1} = \frac{a_n + b_n}{2}$$

$$b_{n+1} = \sqrt{\frac{a_n^2 + b_n^2}{2}}$$

$$a_0 = A, b_0 = B$$

39. $3.89115 \dots = (7\sqrt{3} - \sqrt{15})/12 + \sqrt{18 - 6\sqrt{5}}/3 + (1 + \sqrt{5}) \sqrt{10 - 2\sqrt{5}}/8$
 $+ \sqrt{5 + 2\sqrt{5}}/2$

This is the minimum total length of lines tying together the five points of a regular pentagon having unit sides.

40. $0.05233 \dots = \sin 3^\circ = (1/16)(2\sqrt{5 + \sqrt{5}} - 2\sqrt{15 + 3\sqrt{5}} - \sqrt{2} - \sqrt{6} + \sqrt{10} + \sqrt{30})$

$$0.99862 \dots = \cos 3^\circ = (1/16)(2\sqrt{5 + \sqrt{5}} + 2\sqrt{15 + 3\sqrt{5}} + \sqrt{2} - \sqrt{6} - \sqrt{10} + \sqrt{30})$$

41. $1.83928 \dots = (1/3)(1 + (19 + \sqrt{297})^{1/3} + (19 - \sqrt{297})^{1/3})$
= root of $x^3 - x^2 - x - 1 = 0$

This root is the limit of the ratio of adjacent terms formed in the same manner as Fibonacci numbers (Ref. 31), but adding three terms instead of two.

42. $\sin 10^4 = -\sin 17^\circ.79513\ 08232\ 08767\ 98155$
 $\cos 10^4 = -\cos 17^\circ.79513\ 08232\ 08767\ 98155$

43. $137.03859 \dots = e^u$
 $4.92026 \dots = u = \text{root of } x^3 + 5x^2 + 2x - 250 = 0$

44. $f(x) = \left[1 - 2^x \left(\frac{x \ln 2}{2^x - 1} \right)^2 \right]^{-\frac{1}{2}}$

45. An automorphic number is one the square of which ends in the given number.

46. A perfect number is a number such that the sum of all the factors, including 1, is equal to the number.

