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A reconstruction of Edward Sang's table of logarithms of the first 10000 primes (K4)

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1 Introduction

Edward Sang (1805–1890) was probably the greatest calculator of logarithms of the 19th century [4, 12, 13, 14, 25, 30]. Sang spent 40 years computing tables of logarithms and trigonometric functions, with the assistance from his daughters Flora (1838-1925) and Jane (1834-1878). The result fills about 50 manuscript volumes, plus a number of transfer duplicates, which are kept at Edinburgh University Library and at the National Library of Scotland, Edinburgh. I have reconstructed a number of these tables and an overview of the tables and reconstructions can be found in a separate guide [34].

Sang's purpose was in particular to provide fundamental tables, including for the decimal division of the quadrant. In 1890 [4, p. 189], he wrote that

> In addition to the results being accurate to a degree far beyond what can ever be needed in practical matters, [the collection of computations] contains what no work of the kind has contained before, a complete and clear record of all the steps by which those results were reached. Thus we are enabled at once to verify, or if necessary, to correct the record, so making it a standard for all time.
>
> For these reasons it is proposed that the entire collection be acquired by, and preserved in, some official library, so as to be accessible to all interested in such matters; so that future computers may be enabled to extend the work without the need of recomputing what has been already done; and also so that those extracts which are judged to be expedient may be published.

2 The logarithms of the first 10000 primes

In volume K4, which is reconstructed here, Sang had planned to give the logarithms of the first 10000 primes. He actually only gave 28-place logarithms for the primes up to 10000, and a few more afterwards. The values for the other primes are given to 15 places, or not given at all. The value of each 28-place logarithm is given with references to its computation in volumes K1, K2 and K3, but not all references are given.[1]

The table contains 400 pages and 25 primes per page, except in a few instances. In my reconstruction, the pages have exactly the same page numbers as in Sang's original table and are numbered 0 to 399. The original pages are all one-sided, but they are two-sided in the reconstruction. The blocks of eight pages are numbered from 0 to 49.

There are some idiosyncrasies: page 127 contains only 24 values, and the last page 399 contains 26 values. This therefore makes up for $400 \times 25 + 1 - 1 = 10000$ primes, but in fact Sang forgot two primes somewhere between pages 160 and 169. I have not had the opportunity to pinpoint the exact errors, but I have fit two more primes at the end of page 169, so as to remain in sync with Sang's table. Consequently, Sang's table contains the primes up to the 10002nd prime (104759), but it is missing two primes which remain to be pinpointed exactly.

The 15-place logarithms which are given for some values were taken from the table of 15-place logarithms [36, 40].

[1] I copied the page numbers by hand from the original volume and they should be compared to my approximate reconstructions of volumes K1, K2 and K3.

References

The following list covers the most important references[2] related to Sang's table. Not all items of this list are mentioned in the text, and the sources which have not been seen are marked so. I have added notes about the contents of the articles in certain cases.

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[8] Johann Karl Burckhardt. *Table des diviseurs pour tous les nombres du troisième million, ou plus exactement, depuis 2028000 à 3036000, avec les nombres premiers qui s'y trouvent.* Paris: Veuve Courcier, 1816. [also published in [9] together with [10] and [7]]

[2]**Note on the titles of the works:** Original titles come with many idiosyncrasies and features (line splitting, size, fonts, etc.) which can often not be reproduced in a list of references. It has therefore seemed pointless to capitalize works according to conventions which not only have no relation with the original work, but also do not restore the title entirely. In the following list of references, most title words (except in German) will therefore be left uncapitalized. The names of the authors have also been homogenized and initials expanded, as much as possible.

The reader should keep in mind that this list is not meant as a facsimile of the original works. The original style information could no doubt have been added as a note, but I have not done it here.

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N	logarithm	references
2	.30102 99956 63981 19521 37388 947	(8)
3	.47712 12547 19662 43729 50279 033	(7)
5	.69897 00043 36018 80478 62611 053	(8)
7	.84509 80400 14256 83071 22162 586	(9)
11	1.04139 26851 58225 04075 01999 712	(7)
13	1.11394 33523 06836 76920 65051 579	(10)
17	1.23044 89213 78273 92854 01698 943	(13)
19	1.27875 36009 52828 96153 63334 758	(12)
23	1.36172 78360 17592 87886 77771 123	(15)
29	1.46239 79978 98956 08733 28467 630	(16)
31	1.49136 16938 34272 67966 67041 001	(17)
37	1.56820 17240 66994 99680 84506 895	(10)
41	1.61278 38567 19735 49450 94118 500	(18)
43	1.63346 84555 79586 52640 50881 532	(15)
47	1.67209 78579 35717 46441 42193 994	(20)
53	1.72427 58696 00789 04563 29922 916	(17)
59	1.77085 20116 42144 19026 06563 845	(21)
61	1.78532 98350 10767 03388 57485 138	(18)
67	1.82607 48027 00826 43414 91316 292	(19)
71	1.85125 83487 19075 28609 28294 350	(22)
73	1.86332 28601 20455 90107 43869 005	(23)
79	1.89762 70912 90441 42799 48213 865	(8)
83	1.91907 80923 76073 90383 27603 520	(24)
89	1.94939 00066 44912 78472 35433 697	(20)
97	1.98677 17342 66244 85178 43618 117	(25)

(0)

N	logarithm	references
101	2.00432 13737 82642 57427 51881 782	(26)
03	2.01283 72247 05172 20517 10711 946	(29)
07	2.02938 37776 85209 64083 45412 395	(23)
09	2.03742 64979 40623 63520 05133 076	(18)
13	2.05307 84434 83419 72279 52270 286	(27)
27	2.10380 37209 55956 86424 69874 218	(30)
31	2.11727 12956 55764 26081 00542 707	(48)
37	2.13672 05671 56406 76856 29266 271	(26)
39	2.14301 48002 54095 08045 64332 023	(43)
49	2.17318 62684 12274 03825 73635 426	(50)
51	2.17897 69472 93169 43686 90730 553	(53)
57	2.19589 96524 09233 73676 14811 299	(54)
63	2.21218 76044 03957 80764 00914 359	(24)
67	2.22271 64711 47583 27998 40759 099	(56)
73	2.23804 61031 28795 41456 05302 588	(58)
79	2.25285 30309 79893 16957 03826 918	(59)
81	2.25767 85748 69184 51028 97436 764	(36)
91	2.28103 33672 47727 53763 50435 983	(62)
93	2.28555 73090 07773 76059 72386 464	(64)
97	2.29446 62261 61592 92737 17443 177	(25)
99	2.29885 30764 09706 65010 00217 844	(36)
211	2.32428 24552 97692 66508 15581 299	(18)
23	2.34830 48630 48160 67347 51762 162	(67)
27	2.35602 58571 93122 72010 30489 648	(68)
29	2.35983 54823 39887 99412 79298 655	(48)

N	logarithm	references
233	2.36735 59210 26018 97218 91388 355	(33)
39	2.37839 79009 48137 68500 16611 601	(33)
41	2.38201 70425 74868 38407 68839 665	(33)
51	2.39967 37214 81038 13934 05493 167	(70)
57	2.40993 31233 31294 53716 28954 659	(72)
63	2.41995 57484 89757 86897 22335 839	(28)
69	2.42975 22800 02407 98008 72285 159	(44)
71	2.43296 92908 74405 72952 11801 949	(35)
77	2.44247 97690 64448 55377 77563 196	(21)
81	2.44870 63199 05079 89286 39179 163	(22)
83	2.45178 64355 24290 23555 89519 106	(74)
93	2.46686 76203 54109 45624 37585 126	(55)
307	2.48713 83754 77186 48475 46084 365	(76)
11	2.49276 03890 26837 50555 30231 833	(47)
13	2.49554 43375 46448 48480 81265 049	(77)
17	2.50105 92622 17751 49455 32290 164	(65)
31	2.51982 79937 75718 73860 81406 073	(79)
37	2.52762 99008 71338 62619 00147 902	(81)
47	2.54032 94747 90873 71853 53573 032	(22)
49	2.54282 54269 59179 89654 01719 772	(84)
53	2.54777 47053 87822 56549 70693 160	(85)
59	2.55509 44485 78319 14781 65293 944	(83)
67	2.56466 60642 52089 33798 75290 930	(87)
73	2.57170 88318 08687 60550 68969 387	(89)
79	2.57863 92099 68072 34193 14620 595	(77)

N	logarithm	references
383	2.58319 87739 68622 74037 90461 295	(73)
89	2.58994 96013 25707 73624 49469 117	(90)
97	2.59879 05067 63115 06587 68482 407	(93)
401	2.60314 43726 20182 30654 46411 481	(12)
09	2.61172 33080 07341 80360 95027 177	(95)
19	2.62221 40229 66295 30985 07395 994	(84)
21	2.62428 20958 35668 30744 40669 234	(30)
31	2.63447 72701 60731 60075 02803 262	(88)
33	2.63648 78963 53365 44269 80664 497	(97)
39	2.64246 45202 42121 37063 37411 506	(73)
43	2.64640 37262 23069 56023 01044 897	(100)
49	2.65224 63410 03323 17491 90263 537	(103)
57	2.65991 62000 69850 22235 35461 452	(66)
61	2.66370 09253 89648 14507 46818 185	(46)
63	2.66558 09910 17953 13567 41931 084	(106)
67	2.66931 68805 66112 16308 80510 898	(82)
79	2.68033 55134 14563 22009 69639 670	(107)
87	2.68752 89612 14634 33246 32050 644	(108)
91	2.69108 14921 22968 47275 36909 835	(40)
99	2.69810 05456 23389 91416 59050 360	(56)
503	2.70156 79850 55927 39709 82240 903	(88)
09	2.70671 77823 36758 74656 80767 116	(112)
21	2.71683 77232 99524 47423 63411 866	(111)
23	2.71850 16888 67274 23926 01265 789	(114)
41	2.73319 72651 06569 43687 93482 439	(110)

N	logarithm	references
547	2.73798 73263 33430 77381 26473 725	(48)
57	2.74585 51951 73728 90044 34334 989	(116)
63	2.75050 83948 51346 22909 45827 078	(118)
69	2.75511 22663 95071 17228 70555 240	(120)
71	2.75663 61082 45848 05004 02841 300	(121)
77	2.76117 58131 55731 42848 88336 676	(83)
87	2.76863 81012 47614 47606 35592 986	(123)
93	2.77305 46933 64262 60639 66715 598	(125)
99	2.77742 68223 89311 37982 81725 691	(126)
601	2.77887 44720 02739 52088 58507 000	(126)
07	2.78318 86910 75257 58096 01956 305	(128)
13	2.78746 04745 18415 03774 22662 815	(112)
17	2.79028 51640 33241 68204 54661 673	(68)
19	2.79169 06490 20117 97679 79674 344	(98)
31	2.80002 93592 44134 31301 69298 500	(45)
41	2.80685 80295 18817 42224 83770 096	(38)
43	2.80821 09729 24222 07249 19385 055	(94)
47	2.81090 42806 68700 38445 84305 628	(65)
53	2.81491 31812 75073 92142 93105 655	(129)
59	2.81888 54145 94009 86128 04846 071	(129)
61	2.82020 14594 85640 23664 65718 977	(124)
73	2.82801 50642 23976 84647 61709 948	(122)
77	2.83058 86686 85144 31600 60170 603	(130)
83	2.83442 07036 81532 56339 98239 410	(103)
91	2.83947 80473 74198 40758 33677 243	(130)

N	logarithm	references
701	2.84571 80179 66658 65706 40223 373	(131)
09	2.85064 62351 83066 54285 38844 798	(131)
19	2.85672 88903 82882 60776 76506 514	(132)
27	2.86153 44108 59037 83621 34642 487	(132)
33	2.86510 39746 41127 94317 28131 026	(133)
39	2.86864 44383 94825 73669 35855 143	(133)
43	2.87098 88137 60575 29242 26723 412	(134)
51	2.87563 99370 04168 38974 59851 093	(107)
57	2.87909 58795 00072 75709 02275 463	(135)
61	2.88138 46567 70572 82636 87243 356	(135)
69	2.88592 63398 01431 03960 42922 400	(136)
73	2.88817 94939 18324 90897 46881 272	(136)
87	2.89597 47323 59064 55847 49105 931	(137)
97	2.90145 83213 96112 34726 66008 272	(63)
809	2.90794 85216 12272 30432 36285 459	(77)
11	2.90902 08542 11156 03069 03308 483	(51)
21	2.91434 31571 19440 77180 40593 417	(127)
23	2.91539 98352 12269 83976 77077 566	(49)
27	2.91750 55095 52546 67071 16671 845	(137)
29	2.91855 45305 50273 55311 51367 881	(125)
39	2.92376 19608 28700 27499 86012 269	(69)
53	2.93094 90311 67523 02999 84110 763	(59)
57	2.93298 08219 23198 16429 25296 947	(85)
59	2.93399 31638 31242 30262 85442 123	(137)
63	2.93601 07957 15209 59266 36308 698	(31)

N	logarithm	references
877	2.94299 95933 66040 51822 80278 381	(138)
81	2.94497 59084 12047 91274 23677 895	(138)
83	2.94596 07035 77568 58561 59053 733	(53)
87	2.94792 36198 31726 39219 65090 149	(52)
907	2.95760 72870 60095 25584 72139 016	(139)
11	2.95951 83769 72998 24763 28008 178	(139)
19	2.96331 55113 86111 26519 69202 086	(139)
29	2.96801 57139 93641 76318 47673 879	(140)
37	2.97173 95908 87778 26302 75767 321	(140)
41	2.97358 96234 27256 90834 22975 106	(140)
47	2.97634 99790 03273 41875 01137 759	(120)
53	2.97909 29006 38326 40853 29398 477	(141)
67	2.98542 64740 83001 67359 77060 212	(67)
71	2.98721 92299 08004 86280 31389 065	(141)
77	2.98989 45637 18773 07091 48028 111	(141)
83	2.99255 35178 32135 62274 96349 247	(142)
91	2.99607 36544 85275 32836 44343 788	(65)
97	2.99869 51583 11655 71988 13717 028	(142)
1009	3.00389 11662 36910 52171 52813 165	(143)
13	3.00560 94453 60280 42845 01617 201	(143)
19	3.00817 41840 06426 39490 49899 223	(64)
21	3.00902 57420 86910 24724 81480 370	(132)
31	3.01325 86652 83516 54690 96644 090	(143)
33	3.01410 03215 19620 57904 40100 627	(78,101)
39	3.01661 55475 57177 41240 21010 014	(144)

N	logarithm	references
1049	3.02077 54881 93557 85990 72007 639	(144)
51	3.02160 27160 28242 22008 37688 891	(144)
61	3.02571 53839 01340 66612 28844 740	(145)
63	3.02653 32645 23296 75697 14741 946	(145)
69	3.02897 77052 08778 01749 01456 799	(66,101)
87	3.03622 95440 86294 53992 62573 763	(37)
91	3.03782 47505 88341 87761 10634 293	(145)
93	3.03862 01619 49702 79226 92555 276	(146)
97	3.04020 66275 74711 13221 54832 406	(146)
1103	3.04257 55124 40190 59866 14696 639	(147)
09	3.04493 15461 49160 06470 72064 222	(148)
17	3.04805 31731 15609 05701 59771 177	(148,9)
23	3.05037 97562 61457 78468 70792 697	(118,149)
29	3.05269 39419 24967 86114 43037 582	(90,150)
51	3.06107 53236 29791 80184 89634 615	(150)
53	3.06182 93072 94699 02164 09733 543	(151)
63	3.06557 97147 28448 41139 04567 558	(151,2)
71	3.06855 68950 72363 12990 20422 654	(152)
81	3.07224 98976 13514 79908 36467 849	(82,153)
87	3.07445 07189 54591 22046 74555 425	(135,153)
93	3.07664 04436 70341 87278 41438 563	(115,153)
1201	3.07954 30074 02906 04892 71131 982	(154)
13	3.08386 08008 66572 97420 24742 057	(155)
17	3.08529 05782 30064 98886 65060 039	(155,6)
23	3.08742 64570 36285 46333 07314 004	(157)

N	logarithm	references
1229	3.08955 18828 86454 08564 11830 946	(157,8)
31	3.09025 80529 31316 30782 40156 789	(158)
37	3.09236 96996 29120 65363 48429 892	(159)
49	3.09656 24383 74135 51204 20648 910	(128,159)
59	3.10002 57301 07862 59755 37665 686	(160)
77	3.10619 08972 63415 28660 96640 239	(161)
79	3.10687 05444 78653 92263 77038 004	(161)
83	3.10822 66563 74928 50365 60424 911	(115,162)
89	3.11025 29173 53403 02416 64272 392	(162)
91	3.11092 62422 66420 30879 70559 202	(106,163)
97	3.11293 99760 84080 08149 60658 028	(163)
1301	3.11427 72965 61586 25439 96785 569	(97,164)
03	3.11494 44157 12584 69061 90128 413	(164)
07	3.11627 55875 80544 29788 83332 880	(96,165)
19	3.12024 47955 46365 29648 90029 037	(165)
21	3.12090 28176 14527 20407 70657 355	(166)
27	3.12287 09228 64435 51192 95960 564	(166,7)
61	3.13385 81252 03334 69097 07833 026	(167,9)
67	3.13576 85145 67822 27897 04938 656	(168)
73	3.13767 05372 36755 11141 41544 748	(87,169)
81	3.14019 36785 78631 28438 25294 744	(67,169)
99	3.14581 77144 91827 62866 36476 776	(170)
1409	3.14891 09931 09356 42716 50975 641	(78,170)
23	3.15320 49000 84284 33245 10669 235	(52,171)
27	3.15442 39731 14646 95301 90583 153	(171)

(1)

N	logarithm	references
1429	3.15503 22287 90970 23029 15646 131	(172)
33	3.15624 61903 97344 47599 46931 944	(172,3)
39	3.15806 07939 36605 19489 46548 181	(22,173)
47	3.16046 85311 19037 47114 13005 643	(173)
51	3.16166 74124 37735 87365 69047 381	(174)
53	3.16226 56142 98021 52915 23676 003	(63,174)
59	3.16405 52918 93451 61411 90614 488	(175)
71	3.16761 26727 27530 11122 07161 964	(175,6)
81	3.17055 50585 21208 47946 38325 834	(176)
83	3.17114 11510 28382 02544 11800 965	(177)
87	3.17231 09685 21954 21349 77456 854	(177,8)
89	3.17289 46977 52176 14619 38262 724	(178,9)
93	3.17405 98077 25025 40498 47363 628	(94,178)
99	3.17580 16328 48279 46655 79606 786	(180)
1511	3.17926 44643 39025 36971 60954 471	(180,1)
23	3.18269 99033 36042 57884 95707 960	(112,181)
31	3.18497 51906 98261 02746 62831 313	(181,2)
43	3.18836 59260 63148 26758 81186 784	(182,3)
49	3.19005 14177 59206 00266 12137 623	(29,183)
53	3.19117 14557 28558 52440 39547 805	(184)
59	3.19284 61151 88841 68075 79307 539	(187)
67	3.19506 89964 68590 13100 45843 028	(188)
71	3.19617 61850 39973 33052 43343 881	(188,9)
79	3.19838 21300 08294 23351 07087 056	(39,189)
83	3.19948 09148 62355 91147 62019 722	(189,90)

N	logarithm	references
1597	3.20330 49161 38482 93226 41519 352	(191)
1601	3.20439 13319 19299 73319 31405 646	(191)
07	3.20601 58767 63344 53624 34366 844	(192)
09	3.20655 60440 99029 54984 49914 584	(121,192)
13	3.20763 43673 88961 52059 90132 340	(193)
19	3.20924 68487 53373 73689 13632 895	(179)
21	3.20978 30148 48514 94470 85287 458	(193,4)
27	3.21138 75529 36858 78768 53279 334	(194)
37	3.21404 86794 11941 43947 28234 971	(195)
57	3.21932 25084 19336 74212 64922 231	(195,6)
63	3.22089 22492 19519 23968 51225 862	(196)
67	3.22193 55998 28005 32472 01330 002	(196)
69	3.22245 63366 79246 71116 05462 276	(56,197)
93	3.22865 69581 08935 24241 90592 650	(198,9)
97	3.22968 18423 17675 79742 88374 531	(100,199)
99	3.23019 33788 69045 60780 89781 726	(199,0)
1709	3.23274 20627 20736 83466 08689 457	(200)
21	3.23578 08703 27560 25935 96701 821	(202)
23	3.23628 52774 48028 49148 77045 541	(202,3)
33	3.23879 85627 13917 00092 95709 855	(203)
41	3.24079 87711 17331 20298 37226 909	(204)
47	3.24229 29049 82930 93972 20830 131	(207)
53	3.24378 19160 93794 93236 96628 516	(60,209)
59	3.24526 58394 57461 26128 36925 939	(209)
77	3.24968 74278 05301 52549 15522 035	(210,1)

N	logarithm	references
1783	3.25115 13431 75354 60160 05806 617	(211)
87	3.25212 45525 05644 23677 80598 068	(212)
89	3.25261 03405 67372 99898 10518 121	(212,3)
1801	3.25551 37128 19533 32604 76017 322	(72,213)
11	3.25791 84503 14058 40769 02819 070	(213,4)
23	3.26078 66686 54976 30145 67580 846	(108,214)
31	3.26268 83443 01696 47100 45123 455	(99,214)
47	3.26646 68954 40241 40759 55077 839	(215)
61	3.26974 63731 30767 01147 33228 211	(215)
67	3.27114 43179 49078 30619 33694 818	(216)
71	3.27207 37875 00009 91904 14158 729	(216,7)
73	3.27253 77773 75237 37081 44920 208	(217)
77	3.27346 42726 21346 31540 52529 130	(105)
79	3.27392 67801 00525 60943 58407 479	(217,8)
89	3.27623 19579 21833 58520 21940 192	(62,218)
1901	3.27898 21168 65443 13828 93557 050	(219)
07	3.28035 06930 46005 62303 05577 793	(219,0)
13	3.28171 49700 27295 85695 97785 477	(46,220)
31	3.28578 22737 79394 70906 68877 210	(220)
33	3.28623 18540 28553 01132 85510 264	(221)
49	3.28981 18391 17621 43519 19958 039	(221)
51	3.29025 72693 94518 06938 15965 594	(222)
73	3.29512 70852 52191 18752 56931 590	(51,222)
79	3.29644 57942 06396 26586 79335 948	(223)
87	3.29819 78671 09815 15095 69189 369	(223)

N	logarithm	references
1993	3.29950 72987 00487 60356 34029 734	(224)
97	3.30037 80648 70702 56980 88522 235	(224,5)
99	3.30081 27941 18116 93941 40476 707	(225)
2003	3.30168 09492 93576 22874 57311 011	(241)
11	3.30341 20705 96741 94027 55884 667	(241,2)
17	3.30470 58982 12765 43612 80880 090	(242)
27	3.30685 37486 93008 70960 47528 858	(84,243)
29	3.30728 20470 33345 98773 93331 239	(269)
39	3.30941 72257 78140 00106 73081 558	(270)
53	3.31238 89493 70591 87405 77043 432	(271)
63	3.31449 92279 73151 56543 16502 424	(272)
69	3.31576 04906 65734 59153 00855 633	(86,243)
81	3.31827 20802 11626 93488 11787 171	(263)
83	3.31868 92699 47745 86529 94267 585	(272)
87	3.31952 24490 65454 03156 64425 958	(273)
89	3.31993 84399 80308 57953 95749 452	(252)
99	3.32201 24385 82400 43767 54015 477	(117,243)
2111	3.32448 82333 07656 37991 42588 329	(274)
13	3.32489 94970 52313 36767 20859 309	(274)
29	3.32817 56614 38322 56636 46110 339	(275)
31	3.32858 34497 14201 97434 54996 067	(275)
37	3.32980 45221 64069 41192 58225 215	(128,244)
41	3.33061 66672 94438 33006 62418 281	(275,6)
43	3.33102 21710 41828 67062 13034 266	(74,244)
53	3.33304 40298 23487 19121 76635 876	(276)

N	logarithm	references
2161	3.33465 47668 83241 33203 04628 969	(277)
79	3.33825 72302 46255 62177 41169 478	(277)
2203	3.34301 44971 50767 61689 13834 421	(253)
07	3.34380 23331 61655 04056 59899 729	(61,244)
13	3.34498 14139 27257 94677 43117 064	(278)
21	3.34654 85585 48473 95657 10824 549	(279)
37	3.34966 59840 96629 68213 64897 322	(279)
39	3.35005 40935 79030 26591 43036 290	(271)
43	3.35082 92735 82967 73874 53128 241	(34,245)
51	3.35237 54950 00519 98524 16486 304	(279)
67	3.35545 15201 26517 38855 46316 966	(93,114)
69	3.35583 44958 84935 97811 90969 553	(280)
73	3.35659 94357 24970 82044 81386 581	(280)
81	3.35812 52852 76648 56634 51551 838	(282)
87	3.35926 61646 06748 48629 05585 336	(208)
93	3.36040 40547 29938 85489 05432 918	(55,245)
97	3.36116 09951 95026 07388 40930 796	(282)
2309	3.36342 39329 17176 34080 27319 216	(283)
11	3.36379 99454 79109 31626 26559 784	(284)
33	3.36791 47387 93752 62566 05485 931	(284)
39	3.36903 02218 09153 04663 65437 148	(285)
41	3.36940 14136 96624 34726 77624 833	(285)
47	3.37051 30895 98592 57352 75061 651	(286)
51	3.37125 26291 24939 36395 83180 177	(286)
57	3.37235 95825 24323 76384 93013 464	(287)

N	logarithm	references
2371	3.37493 15539 78188 15333 63742 492	(287)
77	3.37602 91817 28180 27013 64663 236	(262)
81	3.37675 93954 04879 86353 61665 078	(57,245)
83	3.37712 40423 46456 11269 72378 776	(271)
89	3.37821 61497 49877 88651 06023 413	(288)
93	3.37894 26986 13437 35176 91684 848	(288)
99	3.38003 02479 67830 62537 95325 943	(9,245)
2411	3.38219 72103 77453 66860 53105 579	(289)
17	3.38327 66504 07650 36774 12122 123	(289)
23	3.38435 34141 37506 20578 25827 611	(18,246)
37	3.38685 55291 84724 30713 54601 750	(290)
41	3.38756 77794 17188 60857 68487 834	(291)
47	3.38863 39693 51789 18920 74492 916	(291)
59	3.39075 85287 38717 15513 64539 269	(75,246)
67	3.39216 91494 89736 03273 84014 346	(292)
73	3.39322 41163 61297 28629 01101 540	(291)
77	3.39392 60065 85836 98448 83123 886	(91,246)
2503	3.39846 08496 08223 24065 80604 511	(278)
21	3.40157 28456 76445 91471 98578 396	(40,396)
31	3.40329 21451 58254 23606 49517 708	(292,3)
39	3.40466 27008 73722 22586 72512 528	(293,4)
43	3.40534 63601 75708 88714 86600 451	(294)
49	3.40636 98354 69267 51714 22399 226	(99,270)
51	3.40671 04586 09790 02937 87892 326	(294,5)
57	3.40773 07280 26335 45274 74519 438	(295)

N	logarithm	references
2579	3.41145 13421 37937 49985 76701 357	(263)
91	3.41346 74129 85824 81329 45327 552	(295)
93	3.41380 25167 69351 48294 45753 054	(296)
2609	3.41647 40791 00220 77002 84525 802	(296,7)
17	3.41780 37226 39880 97516 44672 287	(297)
21	3.41846 70209 46600 46257 28645 116	(297,8)
33	3.42045 08591 06068 15841 95932 026	(28,247)
47	3.42275 39413 01348 21783 18754 042	(95,247)
57	3.42439 15544 10277 51590 45257 780	(298)
59	3.42471 83373 31567 04140 77135 040	(299)
63	3.42537 11664 38941 23092 46294 679	(298,9)
71	3.42667 38880 21372 84040 17361 112	(299)
77	3.42764 83711 86932 63840 99152 144	(300)
83	3.42862 06726 71939 00384 38108 778	(300)
87	3.42926 76664 33168 45646 49522 668	(300,1)
89	3.42959 08022 23301 60664 37082 823	(301)
93	3.43023 63534 11510 43396 37664 818	(116,247)
99	3.43120 28845 56516 63531 72264 087	(280)
2707	3.43248 82557 70506 41608 55938 024	(207,8)
11	3.43312 95175 80485 55371 51780 739	(93,105)
13	3.43344 97937 61596 10585 81664 578	(301,2)
19	3.43440 92075 87500 12062 22885 323	(302)
29	3.43600 35356 69896 53143 43772 114	(282)
31	3.43632 17001 39733 31739 05248 537	(302)
41	3.43790 90355 39498 38246 59881 162	(303)

N	logarithm	references
2749	3.43917 47398 43468 46710 89244 012	(262)
53	3.43980 62113 93330 25600 98048 596	(53)
67	3.44200 91591 40951 98051 81386 140	(303)
77	3.44357 58797 50257 58887 05441 317	(113,283,247)
89	3.44544 85142 66049 85943 93354 662	(304)
91	3.44575 98364 88631 04710 99847 704	(184,5)
97	3.44669 24663 71527 23975 24666 061	(260)
2801	3.44731 31088 23568 20491 61120 316	(304)
03	3.44762 30977 60286 12389 06279 290	(299)
19	3.45009 50758 71602 32928 88160 278	(306)
33	3.45224 65745 20437 19912 89181 341	(292)
37	3.45285 93357 95852 28556 02635 029	(307)
43	3.45377 68596 90442 13801 61828 891	(308)
51	3.45499 72173 09459 98866 65447 024	(255)
57	3.45591 02403 82743 00324 90503 871	(308)
61	3.45651 78578 05262 64318 30717 415	(308)
79	3.45924 16648 78082 00619 10729 033	(309)
87	3.46044 67838 80720 48880 38444 903	(309)
97	3.46194 84952 03761 80697 71051 339	(310)
2903	3.46284 70358 31673 72550 25759 466	(311)
09	3.46374 37212 47059 18823 15848 482	(311)
17	3.46493 64291 21732 67730 19510 764	(311)
27	3.46642 27224 33791 95077 79985 391	(312)
39	3.46819 95860 72612 56560 78647 458	(312)
53	3.47026 34469 65078 44279 47006 868	(313)

(2)

N	logarithm	references
2957	3.47085 13245 26117 63821 67534 351	(254)
63	3.47173 16514 80051 09074 64396 903	(31,373)
69	3.47261 01975 96044 63872 36210 499	(313)
71	3.47290 26518 03664 04883 78348 112	(261)
99	3.47697 64657 59527 13546 21323 131	(39)
3001	3.47726 59954 24852 62460 29421 913	(39)
11	3.47871 07555 12759 31641 78366 154	(124,248)
19	3.47986 31130 23097 73384 82587 756	(304,5)
23	3.48043 81471 77817 10265 68122 184	(314)
37	3.48244 47919 18265 20873 59903 209	(314)
41	3.48301 64201 44132 16145 76966 372	(315)
49	3.48415 74243 65380 68715 23702 975	(317)
61	3.48586 33295 97334 64119 53386 620	(317)
67	3.48671 37759 82485 49492 37351 359	(81,249)
79	3.48840 96889 03198 10078 33572 645	(317)
83	3.48897 35247 26508 25467 62342 138	(318)
89	3.48981 79083 01450 63594 96737 858	(62,249)
3109	3.49262 07220 43191 81649 64913 805	(319)
19	3.49401 53747 57143 76632 70982 372	(322)
21	3.49429 37686 65332 69048 70857 829	(323)
37	3.49651 45186 97745 03971 50416 725	(323)
63	3.50009 91919 15722 84583 72734 424	(269)
67	3.50064 80633 71911 94554 47972 976	(323)
69	3.50092 22391 90300 50935 83564 924	(324)
81	3.50256 36691 07363 35590 39561 460	(324)

N	logarithm	references
3187	3.50338 20634 73732 67533 94459 615	(266)
91	3.50392 68041 93510 42698 06642 172	(325)
3203	3.50555 69386 63821 76636 02411 589	(255)
09	3.50636 97170 95504 05893 38987 625	(293)
17	3.50745 10609 01969 81021 89228 762	(325)
21	3.50799 07248 19691 39157 78383 200	(325)
29	3.50906 80450 17161 63726 67638 801	(259)
51	3.51201 69694 96126 67359 26768 127	(204,5)
53	3.51228 40632 81853 57739 23424 508	(41,249)
57	3.51281 77585 64873 11921 78022 611	(326)
59	3.51308 43604 65144 18934 67231 883	(326)
71	3.51468 05441 24981 62935 26883 633	(327)
99	3.51838 23155 45343 87982 76562 225	(109,250)
3301	3.51864 55243 30311 53142 24041 872	(109,250)
07	3.51943 41949 13702 85093 41235 239	(327)
13	3.52022 14358 81959 98654 06325 780	(328)
19	3.52100 72524 08603 95067 05319 844	(328)
23	3.52153 03412 78711 03355 66671 341	(329)
29	3.52231 37951 56667 38153 25409 004	(330)
31	3.52257 46326 91176 80123 14749 511	(290)
43	3.52413 63765 92568 52980 06456 790	(329)
47	3.52465 57123 57777 13934 53452 304	(283)
59	3.52621 00038 41664 28454 60648 971	(330)
61	3.52646 85124 69477 43974 39083 584	(331)
71	3.52775 87525 20971 92147 34216 449	(332)

N	logarithm	references
3373	3.52801 63411 89201 45723 48563 188	(276)
89	3.53007 15688 37378 24922 05578 616	(218,9)
91	3.53032 77897 78086 30341 51181 199	(332)
3407	3.53237 21335 67877 40882 46022 327	(333)
13	3.53313 62882 78638 85203 84554 046	(334)
33	3.53567 38034 25750 12694 34128 166	(102,250)
49	3.53769 31943 67390 72553 02975 189	(334)
57	3.53869 93795 42406 80402 23594 018	(334)
61	3.53920 15992 94127 70553 35077 039	(335)
63	3.53945 24915 49460 83038 83802 463	(335)
67	3.53995 38416 56396 68566 07515 544	(336)
69	3.54020 42998 42059 82380 82582 211	(336)
91	3.54294 98488 14178 81924 91598 204	(287)
99	3.54394 39424 82906 44550 41417 112	(90,251)
3511	3.54543 08294 65351 21091 33065 458	(257)
17	3.54617 23683 16942 58091 47041 890	(59)
27	3.54740 54596 67489 63362 08268 280	(336)
29	3.54765 16583 59969 19922 43321 069	(337)
33	3.54814 36374 34845 49092 66351 583	(92,251)
39	3.54888 05626 37514 88491 20939 195	(337)
41	3.54912 59267 58111 06296 42905 940	(338)
47	3.54986 11884 71942 75047 03534 195	(338)
57	3.55108 38651 85780 33468 33387 119	(270)
59	3.55132 79880 03845 90372 83728 340	(339)
71	3.55278 98501 92781 94280 00108 990	(339)

N	logarithm	references
3581	3.55400 43210 11902 93153 82590 203	(340)
83	3.55424 68081 66110 59348 90384 939	(305)
93	3.55545 72172 04649 48993 00122 810	(340)
3607	3.55714 61423 18363 11356 51593 974	(134,251)
13	3.55786 79615 68022 23084 91370 390	(340)
17	3.55834 85087 61619 72899 36359 222	(63)
23	3.55906 83340 34536 82889 47640 684	(341)
31	3.56002 62489 12892 31771 20173 449	(342)
37	3.56074 33010 54711 91178 39632 816	(342)
43	3.56145 91712 41915 90062 44496 137	(318)
59	3.56336 24094 86607 49283 30055 075	(343)
71	3.56478 43845 03986 77432 66446 447	(281)
73	3.56502 09283 45293 76140 69332 019	(343)
77	3.56549 36298 68862 38927 39330 957	(344)
91	3.56714 40451 95657 17258 55576 938	(259)
97	3.56784 94505 73106 79663 07845 279	(344)
3701	3.56831 90850 95111 78132 12587 061	(261)
09	3.56925 68333 28610 14317 95072 752	(345)
19	3.57042 61783 58972 59034 02418 023	(96,251)
27	3.57135 93927 53839 65857 39186 185	(341)
33	3.57205 79899 26304 54043 35859 309	(345)
39	3.57275 54651 54219 61585 16706 918	(345)
61	3.57530 33334 22399 11599 01770 421	(346)
67	3.57599 56202 03267 63079 31730 624	(346)
69	3.57622 61374 49604 95609 94192 410	(254)

N	logarithm	references
3779	3.57737 68919 17014 50824 10426 702	(347)
93	3.57898 28427 02790 54221 24381 592	(263)
97	3.57944 05971 39797 18935 33718 030	(347)
3803	3.58012 63254 11582 45936 31184 192	(348)
21	3.58217 70376 88408 83585 72411 040	(268)
23	3.58240 42980 19028 11143 11938 622	(349)
33	3.58353 88192 54352 13925 48451 662	(349)
47	3.58512 21863 06815 49050 87822 002	(350)
51	3.58557 35186 22731 10285 39822 538	(273)
53	3.58579 90090 13000 92242 24559 796	(313)
63	3.58692 47081 44820 33503 52745 113	(351)
77	3.58849 58010 07210 01456 25329 897	(351,540)
81	3.58894 36427 40014 91155 54750 639	(246)
89	3.58983 79431 47459 74777 50625 881	(90,252)
3907	3.59184 34112 24784 45391 02864 273	(265)
11	3.59228 78159 52130 69338 07565 165	(328)
17	3.59295 35715 47865 86897 29447 327	(351)
19	3.59317 52634 78102 59218 44425 540	(352)
23	3.59361 83081 29535 91136 81754 088	(352)
29	3.59428 20288 11806 11160 74017 218	(353)
31	3.59450 30438 20089 18434 11209 516	(353)
43	3.59582 67770 73223 18127 44248 167	(354)
47	3.59626 71263 95515 33102 06594 383	(182,252)
67	3.59846 22004 74150 52017 78502 367	(354)
89	3.60086 40363 09839 56318 47981 322	(354)

N	logarithm	references
4001	3.60216 85513 78997 17030 34508 838	(355)
03	3.60238 55901 05105 12275 33297 462	(355)
07	3.60281 93424 32699 78482 71988 549	(356)
13	3.60346 91597 33838 73504 21467 289	(356)
19	3.60411 80061 92034 86116 30704 220	(357)
21	3.60433 40731 02911 10491 37317 386	(357)
27	3.60498 16296 07431 56624 26222 087	(358)
49	3.60734 77767 68413 40115 60025 527	(358)
51	3.60756 22431 83588 23097 00243 914	(359)
57	3.60820 50077 04326 18553 33163 960	(359)
73	3.60991 44100 85997 69946 52828 572	(359)
79	3.61055 37053 17094 58538 95019 437	(360)
91	3.61182 94794 98373 76076 10132 288	(95)
93	3.61204 17446 45269 55050 08090 852	(333)
99	3.61267 79183 16501 75038 60076 472	(296)
4111	3.61394 74767 80349 76143 57364 045	(68,252)
27	3.61563 44688 77415 96564 62227 949	(267)
29	3.61584 48828 74702 13286 41724 234	(315)
33	3.61626 54052 81708 19105 02910 090	(360)
39	3.61689 54264 00759 96645 08000 165	(301)
53	3.61836 19311 09878 16557 73200 548	(361)
57	3.61878 00245 06214 76388 51027 308	(361)
59	3.61898 89203 64933 62038 68018 698	(361)
77	3.62086 44752 65121 11706 37330 870	(273)
4201	3.62335 26815 37991 98069 71329 145	(362)

N	logarithm	references
4211	3.62438 52414 20265 07448 42709 910	(288)
17	3.62500 36010 14863 46122 79296 003	(363)
19	3.62520 95253 81880 99660 71024 619	(364)
29	3.62623 76851 46900 38664 29976 858	(364)
31	3.62644 30253 31294 65697 44390 504	(364)
41	3.62746 82724 59709 61629 04234 196	(125,253)
43	3.62767 30317 66615 87374 79167 248	(185)
53	3.62869 53827 14023 30074 37789 943	(365)
59	3.62930 76400 73748 85412 08507 112	(365)
61	3.62951 15342 00453 23461 58882 416	(366)
71	3.63052 95714 26824 05819 49390 544	(333)
73	3.63073 28928 17196 51996 78685 423	(310)
83	3.63174 80743 96569 34919 98374 468	(366)
89	3.63235 60462 39073 19572 07604 840	(367)
97	3.63316 53536 83903 19147 69685 509	(343)
4327	3.63618 68951 98724 27758 38192 068	(206)
37	3.63718 94221 48761 91367 78850 821	(367)
39	3.63738 96501 29211 91071 01526 420	(368)
49	3.63838 94076 65335 96296 77974 037	(283)
57	3.63918 75599 35753 90810 82833 881	(266)
63	3.63978 52129 86820 12977 39024 367	(62,252)
73	3.64077 94773 44856 99985 50583 722	(266)
91	3.64256 34371 04387 79379 82664 329	(368)
97	3.64315 64656 19706 25255 07334 420	(369)
4409	3.64434 00988 26322 58497 62417 895	(342)

N	logarithm	references
4421	3.64552 05149 05874 00677 48996 183	(369)
23	3.64571 69393 69603 79239 41039 822	(369)
41	3.64748 07731 73675 94166 66125 960	(370)
47	3.64806 71294 48934 63380 77893 680	(371)
51	3.64845 75942 82522 52292 90256 632	(371)
57	3.64904 26340 86176 36410 71253 278	(371)
63	3.64962 68868 40529 43240 95442 995	(284)
81	3.65137 49439 13043 24592 65722 473	(372)
83	3.65156 87388 65791 87084 04009 777	(370)
93	3.65253 64185 93025 39364 72409 160	(372)
4507	3.65388 75580 70977 52098 23360 746	(332)
13	3.65446 53335 20145 84102 41512 306	(373)
17	3.65485 00905 61394 20316 79094 550	(373)
19	3.65504 23413 31201 76522 14854 156	(373)
23	3.65542 65877 45918 63471 62920 739	(374)
47	3.65772 49542 05108 20190 79070 557	(289)
49	3.65791 59368 29955 18029 27750 068	(375)
61	3.65906 00722 40938 29937 64712 276	(375)
67	3.65963 10116 07000 60382 20516 810	(315)
83	3.66114 98572 44786 61006 71009 378	(375)
91	3.66190 72927 66020 78683 72138 302	(305)
97	3.66247 45037 50309 61901 53095 308	(318)
4603	3.66304 09748 93974 23972 35884 449	(376)
21	3.66473 59685 18704 97981 27380 695	(266)
37	3.66623 70958 95804 43100 02386 666	(113,253)

(3)

N	logarithm	references
4639	3.66642 43725 18759 60257 22098 753	(253)
43	3.66679 86836 66174 06303 23611 024	(377)
49	3.66735 95461 83087 07861 05459 871	(35,254)
51	3.66754 63395 11516 47787 40378 222	(377)
57	3.66810 62379 32731 31992 45132 672	(276)
63	3.66866 54154 54492 06665 88276 991	(378)
73	3.66959 57810 24313 31230 17887 759	(378)
79	3.67015 30451 92180 23885 96321 689	(298)
91	3.67126 54329 47158 36295 44222 033	(378)
4703	3.67237 49787 46079 48799 81587 810	(281)
21	3.67403 40004 31254 89915 09592 621	(362)
23	3.67421 79455 76699 93898 07125 569	(379)
29	3.67476 93140 15426 27699 47250 917	(379)
33	3.67513 65044 67994 01240 96278 587	(380)
51	3.67678 50304 19205 47366 77974 580	(381)
59	3.67751 57047 98757 48474 15983 770	(381)
83	3.67970 03808 71964 14860 56743 321	(381)
87	3.68006 34274 81948 56346 78683 967	(382)
89	3.68024 48370 42607 70373 70018 405	(382)
93	3.68060 74289 91787 87543 72065 388	(383)
99	3.68115 07499 32421 39295 02457 968	(383)
4801	3.68133 17059 69165 74612 55221 901	(384)
13	3.68241 58616 77358 49039 14460 668	(293)
17	3.68277 66463 14434 03788 54888 550	(384)
31	3.68403 70374 86519 76040 87457 375	(385)

N	logarithm	references
4861	3.68672 56210 74542 16057 40330 589	(386)
71	3.68761 81295 71769 92543 08261 812	(321)
77	3.68815 27555 91566 32939 72841 173	(386)
89	3.68922 00372 63835 58973 96992 931	(46,254)
4903	3.69046 18932 46178 25432 18123 054	(386)
09	3.69099 30320 99869 42745 36677 006	(387)
19	3.69187 68225 59331 32237 81250 669	(387)
31	3.69293 50025 31137 73307 37708 707	(290)
33	3.69311 11154 62141 22924 31675 579	(388)
37	3.69346 31272 19531 13680 48986 021	(389)
43	3.69399 06104 60776 78349 37633 846	(389)
51	3.69469 29263 31484 08117 82289 213	(349)
57	3.69521 89189 05150 92117 84063 908	(206)
67	3.69609 41599 95223 34264 87712 059	(389)
69	3.69626 89967 45532 79607 98377 321	(390)
73	3.69661 84592 32224 94313 02105 440	(390)
87	3.69783 93682 18363 01607 82012 676	(305)
93	3.69836 15660 55109 73681 25125 363	(370)
99	3.69888 31367 52590 22399 16934 135	(56,255)
5003	3.69923 05028 83409 15160 41157 162	(391)
09	3.69975 10316 89514 32398 95036 635	(391)
11	3.69992 44027 42476 70003 24076 787	(391)
21	3.70079 02213 74346 91188 74646 777	(347)
23	3.70096 31781 59549 31021 18046 098	(368)
39	3.70234 43583 55768 70884 55641 025	(286)

N	logarithm	references
5051	3.70337 73685 12349 54750 93370 408	(392)
59	3.70406 46794 08567 36239 18500 930	(337)
77	3.70560 71634 04605 03698 41761 540	(392)
81	3.70594 91949 10295 67193 27049 923	(393,4)
87	3.70646 17376 31354 70084 89017 659	(277)
99	3.70748 50119 67473 58339 92144 293	(394)
5101	3.70765 53235 31186 91252 11619 801	(395)
07	3.70816 58578 55540 06514 91805 138	(395)
13	3.70867 57927 26536 97672 01781 306	(396)
19	3.70918 51295 50245 42505 57485 709	(396)
47	3.71155 41682 50169 54608 76106 477	(397)
53	3.71206 01424 61074 74927 53067 398	(397)
67	3.71323 84615 45661 71590 33448 175	(374)
71	3.71357 45377 72069 76564 40663 101	(350)
79	3.71424 59110 17894 03252 33869 128	(347)
89	3.71508 36706 94927 24087 89854 880	(397)
97	3.71575 27168 22859 50694 44876 746	(330)
5209	3.71675 43574 32697 17661 01180 322	(310)
27	3.71825 25000 97750 56415 35950 336	(398)
31	3.71858 47200 27436 00587 23826 950	(398)
33	3.71875 07347 39665 24593 30104 965	(399)
37	3.71908 25739 01485 89605 54968 467	(399)
61	3.72106 83017 97159 09554 59136 267	(399)
73	3.72205 77713 31464 13988 26676 916	(400)
79	3.72255 16620 00958 45102 96791 113	(281)

N	logarithm	references
5281	3.72271 61674 88494 80542 36411 612	(325)
97	3.72402 99729 35597 70751 06339 246	(400)
5303	3.72452 16271 18562 68020 67728 080	(401)
09	3.72501 27253 41156 97383 76655 668	(401)
23	3.72615 64661 72754 85958 57466 974	(108,256)
33	3.72697 15836 82876 63572 12106 385	(401)
47	3.72811 01841 00340 61264 25475 527	(402)
51	3.72843 49509 74254 78850 30612 394	(402)
81	3.73086 29920 46493 88478 25840 257	(403)
87	3.73134 69755 45954 93668 16205 052	(403)
93	3.73183 04202 88162 40225 35090 988	(403)
99	3.73231 33274 71242 49417 78978 251	(388)
5407	3.73295 63695 75624 64874 03944 191	(404)
13	3.73343 80270 91061 32618 52622 415	(404)
17	3.73375 88355 87202 70398 55146 274	(318)
19	3.73391 91510 12390 89898 78798 217	(405)
31	3.73487 98027 92627 53402 67802 264	(405)
37	3.73535 93330 01710 77478 57296 488	(406)
41	3.73567 87259 05904 55627 42295 365	(406)
43	3.73583 83343 17073 76550 94859 569	(407)
49	3.73631 68079 04108 82552 24614 754	(407)
71	3.73806 67147 77469 27002 17817 870	(408)
77	3.73854 27409 28785 20520 34654 901	(393)
79	3.73870 13004 34709 76960 78166 184	(408)
83	3.73901 82458 83480 91016 19730 451	(409)

N	logarithm	references
5501	3.74044 16449 49765 96859 19542 078	(210)
03	3.74059 95128 11156 51293 90856 858	(409)
07	3.74091 50764 81282 54584 03092 563	(410)
19	3.74186 03940 65263 54231 83502 470	(330)
21	3.74201 77471 40138 27076 28257 042	(410)
27	3.74248 94645 81775 14013 27081 802	(341)
31	3.74280 36584 69165 57553 68388 026	(410)
57	3.74484 03967 85379 17789 39167 291	(411)
63	3.74530 90599 40827 97895 46758 932	(412)
69	3.74577 72178 89759 06785 60405 223	(412)
73	3.74608 90430 56200 20532 60195 862	(412)
81	3.74671 20225 16660 44242 40128 337	(413)
91	3.74748 94922 58672 86786 95047 402	(413)
5623	3.74996 80835 09402 88088 06999 293	(414)
39	3.75120 20945 88353 16218 15045 584	(414)
41	3.75135 60997 25393 66966 12096 332	(104,262)
47	3.75181 77877 36879 17871 39808 066	(80,262)
51	3.75212 53072 97898 26957 68399 700	(414)
53	3.75227 89854 60118 69663 07278 338	(415)
57	3.75258 61787 40409 21863 35350 422	(284)
59	3.75273 96939 35328 03120 42036 870	(357)
69	3.75350 64569 90970 04449 76578 735	(415)
83	3.75457 76560 44730 34499 39939 353	(416)
89	3.75503 59337 67771 53515 74491 296	(96,263)
93	3.75534 11838 11547 57616 46847 344	(416)

N	logarithm	references
5701	3.75595 10410 04131 95225 17562 173	(416)
11	3.75671 21601 64771 62548 44269 329	(417)
17	3.75716 81922 14272 55757 99023 621	(348)
37	3.75868 48498 82441 00421 04484 516	(417)
41	3.75898 75468 67619 28438 08454 219	(417)
43	3.75913 88162 81166 47399 65775 718	(297)
49	3.75959 23086 45974 85363 69232 385	(205)
79	3.76185 26944 66383 06459 63249 414	(418)
83	3.76215 31923 03594 62181 50588 490	(393)
91	3.76275 35649 33373 96204 03390 135	(186,7)
5801	3.76350 28654 67597 03685 35727 829	(418)
07	3.76395 18260 33324 20221 26501 756	(419)
13	3.76440 03229 56388 12913 44736 693	(419)
21	3.76499 75992 84880 58555 39503 297	(420)
27	3.76544 50180 90150 05308 29139 631	(420)
39	3.76633 84752 51287 30502 06496 652	(421)
43	3.76663 58863 10267 52289 73172 182	(405)
49	3.76708 16213 63322 26253 10548 079	(421)
51	3.76723 00981 10718 28257 34589 471	(421)
57	3.76767 52240 27960 04084 02676 035	(422)
61	3.76797 17213 81618 84742 36184 135	(380)
67	3.76841 60882 16331 65472 69868 317	(422)
69	3.76856 41095 13573 45665 30851 579	(423)
79	3.76930 34601 89081 73381 12622 824	(197)
81	3.76945 11794 02037 61965 52658 583	(384)

N	logarithm	references
5897	3.77063 11277 77806 58685 22388 799	(423)
5903	3.77107 27832 21194 73784 94825 858	(424)
23	3.77254 17326 40943 52164 81593 833	(424)
27	3.77283 49272 39018 13820 77443 704	(382)
39	3.77371 33252 77021 62298 55293 238	(338)
53	3.77473 58825 51753 35445 10049 433	(424)
81	3.77677 38024 12107 04421 61137 992	(425)
87	3.77720 92581 45684 84375 79539 182	(425)
6007	3.77865 76319 47355 24553 97071 209	(426)
11	3.77894 67279 68616 74470 37948 820	(426)
29	3.78024 52838 65352 61067 09676 958	(303)
37	3.78082 11758 53472 94751 71593 164	(89,261)
43	3.78125 25942 48456 42182 55543 390	(427)
47	3.78153 99686 05941 71308 56214 879	(427)
53	3.78197 06739 12552 02784 27505 594	(428)
67	3.78297 39949 44048 24726 88495 009	(428)
73	3.78340 32811 22563 45699 92902 161	(429)
79	3.78383 21433 84441 09063 30689 719	(429)
89	3.78454 59740 54522 57936 35539 545	(388)
91	3.78468 85995 01421 27256 25994 241	(429)
6101	3.78540 10249 92387 50972 41213 378	(393)
13	3.78625 43957 89780 24553 98248 909	(430)
21	3.78682 23794 99187 42798 31009 383	(430)
31	3.78753 13161 27234 25616 44287 320	(431)
33	3.78767 29646 87492 97582 09522 161	(431)

N	logarithm	references
6143	3.78838 05153 19563 31680 81421 574	(432)
51	3.78894 57270 23747 76106 52151 283	(432)
63	3.78979 21677 30675 37838 55336 904	(432)
73	3.79049 62769 67109 54960 73594 409	(332)
97	3.79218 14961 49678 81257 24499 393	(433)
99	3.79232 16363 51573 51318 65974 132	(433)
6203	3.79260 17811 64966 43204 62514 206	(434)
11	3.79316 15292 45550 73573 05204 663	(393)
17	3.79358 08673 68155 80898 33013 603	(434)
21	3.79386 02013 42669 60586 31840 150	(435)
29	3.79441 83308 74140 98479 66050 337	(350)
47	3.79567 15059 46021 74547 87539 517	(385)
57	3.79636 61549 77521 28100 14412 791	(435)
63	3.79678 24117 01307 79475 79774 279	(267)
69	3.79719 82698 38958 88437 90338 486	(430,435)
71	3.79733 68007 75349 83383 91081 575	(435)
77	3.79775 21286 50710 73586 44348 529	(436)
87	3.79844 34603 50187 46654 58774 721	(436)
99	3.79927 16083 49872 64211 14297 488	(70,264)
6301	3.79940 94796 15126 81348 34437 306	(70,264)
11	3.80009 81801 74775 63571 84214 579	(437)
17	3.80051 08768 94367 97376 37801 874	(437)
23	3.80092 31818 13218 27169 72379 247	(437)
29	3.80133 50956 74546 56791 03445 940	(438)
37	3.80188 37071 25239 59969 58033 805	(392)

(4)

N	logarithm	references
6343	3.80229 47113 97463 73840 29513 561	(190)
53	3.80297 88553 35261 82063 89485 015	(439)
59	3.80338 88249 83613 47772 59540 701	(310)
61	3.80352 53955 76532 39149 81745 745	(439)
67	3.80393 48498 63841 77907 96546 570	(437)
73	3.80434 39184 79865 87666 99243 438	(440)
79	3.80475 26021 50460 46360 12324 626	(440)
89	3.80543 28881 32139 93177 68358 896	(441)
97	3.80597 63507 17562 64969 98307 824	(441)
6421	3.80760 26699 16494 60858 17753 286	(441)
27	3.80800 82999 10399 99836 89917 977	(442)
49	3.80949 23769 37341 83385 99617 420	(442)
51	3.80962 70418 94049 73044 71154 012	(285)
69	3.81083 71511 40488 32105 18595 293	(34,265)
73	3.81110 56070 17930 39638 82884 750	(443)
81	3.81164 20214 53151 00957 52230 112	(443)
91	3.81231 16091 31123 77347 13412 138	(443)
6521	3.81431 42002 07459 56939 61526 137	(444)
29	3.81484 66686 04463 28879 38208 654	(444)
47	3.81604 23409 21996 61877 22757 458	(445)
51	3.81630 75994 31939 80046 72301 026	(290)
53	3.81644 01679 56138 66098 46667 769	(445)
63	3.81710 24042 56923 14873 38882 065	(445)
69	3.81749 92618 67758 27469 60352 877	(446)
71	3.81763 14671 90515 35672 81171 829	(446)

N	logarithm	references
6577	3.81802 78418 59256 21372 18985 922	(447)
81	3.81829 18907 99995 91567 93449 241	(356)
99	3.81947 81283 62122 59953 90283 597	(447)
6607	3.82000 43068 08317 90132 58509 961	(448)
19	3.82079 23810 88203 71812 51443 937	(281)
37	3.82197 18176 42042 81425 92801 811	(448)
53	3.82301 75234 46049 24015 85578 465	(448)
59	3.82340 90148 92544 58225 74521 389	(269)
61	3.82353 94336 56858 99207 36604 561	(449)
73	3.82432 11248 50771 26538 39903 406	(409)
79	3.82471 14434 64734 31807 23109 429	(449)
89	3.82536 11959 52633 33507 08708 129	(411)
91	3.82549 10298 79430 87742 40028 456	(450)
6701	3.82613 96179 35914 76357 41853 290	(450)
03	3.82626 92193 93726 22481 91008 519	(419)
09	3.82665 77918 75869 30987 12249 152	(450)
19	3.82730 46410 89734 93986 91227 759	(451)
33	3.82820 86144 67945 41836 13099 683	(425)
37	3.82846 65473 52678 33415 48572 356	(396)
61	3.83001 09359 36117 86159 79242 734	(451)
63	3.83013 93874 25342 72556 93489 330	(452)
79	3.83116 56339 09442 48736 74453 322	(452)
81	3.83129 37443 77009 58964 24801 396	(362)
91	3.83193 37304 66745 42377 26500 288	(452)
93	3.83206 16145 90726 97811 28999 217	(453)

N	logarithm	references
6803	3.83270 04709 60567 39959 56594 931	(453)
23	3.83397 53712 79906 19183 35907 615	(454)
27	3.83422 99028 51677 37806 59482 237	(454)
29	3.83435 71127 18405 07432 16175 875	(455)
33	3.83461 14207 22687 17533 47309 107	(327)
41	3.83511 95904 24549 62954 36595 449	(455)
57	3.83613 41494 65374 82623 10050 593	(426)
63	3.83651 39988 90671 39014 63766 559	(455)
69	3.83689 35163 76433 73054 52926 754	(348)
71	3.83701 99485 40908 40441 52912 441	(353)
83	3.83777 77695 53733 28968 94139 916	(324)
99	3.83878 61449 46594 61295 47763 808	(456)
6907	3.83928 94560 06146 93532 63605 059	(456)
11	3.83954 08929 68968 84435 98906 785	(62,265,268)
17	3.83991 77756 78680 98875 89963 200	(457)
47	3.84179 72988 74355 29654 31981 195	(457)
49	3.84192 23116 79450 87046 23895 431	(458)
59	3.84254 68364 95014 94894 31511 642	(358)
61	3.84267 16337 60788 42368 92590 801	(458)
67	3.84304 58105 34569 29285 89582 935	(267)
71	3.84329 50827 36507 10797 49650 819	(458)
77	3.84366 87229 79143 76457 33431 768	(459)
83	3.84404 20420 41016 52069 46015 149	(342)
91	3.84453 93021 29007 90354 56542 519	(459)
97	3.84491 18739 12140 60595 70449 844	(418)

N	logarithm	references
7001	3.84516 00776 51945 81612 54226 760	(460)
13	3.84590 38388 98782 52309 56585 930	(460)
19	3.84627 52424 12213 17573 06870 648	(460)
27	3.84676 99535 37218 78649 91274 069	(267)
39	3.84751 09652 03248 14749 23840 494	(461)
43	3.84775 76883 92331 26757 42395 838	(462)
57	3.84862 01174 34133 90677 27855 448	(462)
69	3.84935 79816 61298 95275 61717 795	(463)
79	3.84997 19123 28850 11795 61697 034	(463)
7103	3.85144 18146 72055 06057 27576 525	(463)
09	3.85180 85142 28237 46490 40850 849	(75,267)
21	3.85254 09857 69798 86891 61852 690	(464)
27	3.85290 67587 96953 67412 73199 472	(307)
29	3.85302 86147 12989 72433 79872 244	(406)
51	3.85436 67780 40869 59228 47394 035	(464)
59	3.85485 23624 17834 00745 36085 685	(465)
77	3.85594 29462 32316 02554 86105 052	(465)
87	3.85654 76448 56747 85067 03838 820	(376)
93	3.85691 00603 00786 23396 11082 330	(465)
7207	3.85775 45220 59442 22648 05799 950	(466)
11	3.85799 54955 60923 98809 21704 843	(466)
13	3.85811 59321 90066 11178 38276 571	(467)
19	3.85847 70418 13340 53549 92732 036	(440)
29	3.85907 82247 46969 34425 25303 898	(467)
37	3.85955 85726 26053 53020 85255 501	(468)

N	logarithm	references
7243	3.85991 84852 00715 76260 40739 553	(468)
47	3.86015 82613 18278 24680 07455 888	(453)
53	3.86051 76774 61746 30737 89098 059	(296)
83	3.86231 03099 54270 41317 67487 018	(115,260)
97	3.86314 43462 52667 45263 68094 778	(468)
7307	3.86373 91073 45217 11834 59243 242	(469)
09	3.86385 79618 83972 96269 76175 545	(469)
21	3.86457 04068 53430 25931 78162 395	(469)
31	3.86516 32195 06086 23375 94249 019	(470)
33	3.86528 16849 95610 54880 19877 500	(103,260)
49	3.86622 82473 79647 21027 72701 723	(461)
51	3.86634 64227 49601 75869 77573 288	(54,260)
69	3.86740 85565 22791 26191 32644 927	(470)
93	3.86882 07061 97517 37977 88986 457	(363)
7411	3.86987 68132 66766 57113 68878 701	(471)
17	3.87022 82790 11794 43338 85793 206	(471)
33	3.87116 41328 02949 41078 24679 093	(472)
51	3.87221 45633 97585 53866 90449 432	(351)
57	3.87256 41430 90651 58675 18464 692	(472)
59	3.87268 06071 51929 65513 90109 083	(472)
77	3.87372 73806 46679 50997 56390 117	(395)
81	3.87395 96547 43353 14634 05814 644	(473)
87	3.87430 78331 28038 95850 47658 566	(473)
89	3.87442 38305 86501 86024 16051 597	(474)
99	3.87500 33536 00041 03801 93655 248	(83,259)

N	logarithm	references
7507	3.87546 64158 66385 58013 29675 734	(120,259)
17	3.87604 45502 46095 10814 77603 236	(281)
23	3.87639 10618 19187 59707 54949 056	(268,265)
29	3.87673 72971 40664 50261 19431 986	(474)
37	3.87719 85152 71789 76457 95330 364	(439)
41	3.87742 89407 88219 74610 12246 142	(45,259)
47	3.87777 43499 91398 08190 69150 199	(440)
49	3.87788 94253 71483 99083 90586 063	(474)
59	3.87846 43453 41468 90981 28495 712	(475)
61	3.87857 92380 62219 21672 95828 851	(102,258)
73	3.87926 79568 24612 80730 65168 345	(475)
77	3.87949 72872 49428 54320 72023 379	(478)
83	3.87984 10559 86562 54651 40937 548	(478)
89	3.88018 45528 26433 44132 88028 423	(479)
91	3.88029 89914 25752 59198 11134 080	(274)
7603	3.88098 49904 86753 42716 08486 130	(479)
07	3.88121 34162 55019 22027 56992 689	(476)
21	3.88201 19616 26658 62473 85885 148	(480)
39	3.88303 65100 27679 80067 23332 516	(480)
43	3.88326 38595 84973 98677 26243 347	(262)
49	3.88360 46609 22292 45621 61324 119	(480)
69	3.88473 87377 69631 78072 09958 789	(430)
73	3.88496 51982 00732 70402 15602 959	(480)
81	3.88541 77651 10936 09447 59671 369	(376)
87	3.88575 68810 69267 39720 47191 849	(476)

N	logarithm	references
7691	3.88598 28113 54973 09419 01669 890	(481)
99	3.88643 43196 28938 29836 33907 706	(481)
7703	3.88665 98978 61202 82265 28619 775	(476)
17	3.88744 85002 49953 69139 38947 516	(481)
23	3.88778 60348 38371 54205 24265 365	(482)
27	3.88801 09122 45028 73297 49080 296	(482)
41	3.88879 70674 56680 76117 31881 862	(483)
53	3.88946 97839 69507 41960 85606 291	(484)
57	3.88969 37914 44185 31523 45608 334	(376)
59	3.88980 57518 68085 42351 82505 977	(477)
89	3.89148 17038 39520 00962 82030 331	(366)
93	3.89170 46762 39182 69447 92955 537	(483)
7817	3.89304 01119 57117 93613 63992 613	(477)
23	3.89337 33302 46024 92068 16830 697	(477)
29	3.89370 62930 64713 48205 68656 605	(483)
41	3.89437 14538 56237 68735 16203 270	(484)
53	3.89503 55974 52322 64718 76100 561	(484)
67	3.89580 91501 69130 96057 82278 096	(485)
73	3.89614 02514 42019 58445 92616 328	(478)
77	3.89636 08454 69316 37953 88728 971	(457)
79	3.89647 11004 79277 23321 01482 112	(485)
83	3.89669 15265 62884 06141 44959 572	(485)
7901	3.89768 20617 96419 91958 25363 717	(28,258)
07	3.89801 17387 97501 64484 40433 009	(482)
19	3.89867 03429 65529 82979 24811 341	(486)

N	logarithm	references
7927	3.89910 88581 93399 40849 57157 342	(487)
33	3.89943 74542 86177 56410 88547 453	(486)
37	3.89965 63803 05635 60678 67736 834	(487)
49	3.90031 24969 83726 59982 31878 312	(374)
51	3.90042 17534 57737 60459 17278 055	(486)
63	3.90107 67157 26254 85287 06516 693	(326)
93	3.90270 98129 69877 07371 76458 651	(487)
8009	3.90357 82936 63054 38959 75064 387	(488)
11	3.90368 67317 36502 46899 43885 638	(488)
17	3.90401 18835 97388 22582 02107 373	(489)
39	3.90520 20286 62318 64213 99642 627	(489)
53	3.90595 76990 92427 07185 08143 311	(488)
59	3.90628 11557 72153 06474 23692 837	(489)
69	3.90681 97154 66545 41079 47584 092	(487)
81	3.90746 51067 65856 19623 77942 843	(490)
87	3.90778 74431 10616 17068 16879 472	(490)
89	3.90789 48354 16282 89881 57019 130	(492)
93	3.90810 95403 92552 17378 88276 192	(490)
8101	3.90853 86321 71959 39609 99323 025	(395)
11	3.90907 44014 00904 31200 97120 623	(51,258)
17	3.90939 55459 67105 53488 60068 887	(493)
23	3.90971 64532 34344 61290 60282 371	(493)
47	3.91099 77163 10642 80970 72097 090	(493)
61	3.91174 33778 55931 69558 54086 577	(319)
67	3.91206 25555 88502 34429 38215 651	(408)

(5)

N	logarithm	references
8171	3.91227 52104 98812 32837 58920 700	(493)
79	3.91270 02081 90860 35533 70025 171	(491)
91	3.91333 69259 32623 19221 63753 526	(316)
8209	3.91429 02556 65949 05536 60365 391	(411)
19	3.91481 89804 47473 12261 70547 572	(371)
21	3.91492 46482 05148 48633 85189 707	(380)
31	3.91545 26016 88478 75894 97515 688	(312,491)
33	3.91555 81154 11520 42637 25920 317	(305)
37	3.91576 90659 83684 13369 90588 776	(497)
43	3.91608 52998 43702 72616 69654 768	(385)
63	3.91713 77527 56444 26987 42502 496	(498)
69	3.91745 29919 29663 48769 45794 213	(494)
73	3.91766 30243 27374 94370 22547 474	(491)
87	3.91839 73388 43700 16430 87407 417	(494)
91	3.91860 69151 44981 93068 64193 562	(494)
93	3.91871 16653 82321 22147 35709 546	(495)
97	3.91892 10900 91335 78568 88232 174	(264)
8311	3.91965 32823 10364 19760 77037 852	(491)
17	3.91996 67014 83387 14607 86495 370	(495)
29	3.92059 28620 84808 49338 02693 775	(492)
53	3.92184 24814 05857 93663 23541 409	(495)
63	3.92236 20967 84790 02856 29227 835	(376)
69	3.92267 35678 58554 22527 24476 559	(496)
77	3.92308 85154 42399 24816 04190 297	(496)
87	3.92360 66430 17459 11998 44449 032	(498)

N	logarithm	references
8389	3.92371 01943 96562 78760 95081 546	(258)
8419	3.92526 05095 19435 26278 15309 138	(496)
23	3.92546 68006 91537 86115 01026 500	(278)
29	3.92577 60538 36746 29456 52008 153	(497)
31	3.92587 90893 01500 82149 56721 416	(497)
43	3.92649 67892 73220 36986 59761 187	(498)
47	3.92670 24941 82644 95170 77521 129	(255)
61	3.92742 16950 50418 70665 65297 666	(292)
67	3.92772 95597 71654 50628 61676 392	(433)
8501	3.92947 00161 77489 49931 19609 440	(499)
13	3.93008 26333 92371 22469 35385 416	(446)
21	3.93049 05653 06269 59456 34393 023	(499)
27	3.93079 62629 83300 21752 60740 789	(499)
37	3.93130 52814 21673 23261 26825 651	(500)
39	3.93140 70135 56573 47191 27934 551	(500)
43	3.93161 04063 62962 02207 62066 553	(454)
63	3.93262 59440 21782 19221 12756 318	(502)
73	3.93313 28237 26734 27845 77579 302	(502)
81	3.93353 79019 71704 66318 02951 154	(500)
97	3.93434 69267 38255 58494 22386 419	(502)
99	3.93444 79489 48970 05389 38608 059	(502)
8609	3.93495 27078 17858 08356 93862 149	(198)
23	3.93565 83861 00634 15348 28700 610	(501)
27	3.93585 97980 37880 43205 04492 752	(503)
29	3.93596 04689 89166 45611 73325 087	(364)

N	logarithm	references
8641	3.93656 40051 35265 95275 30704 738	(438)
47	3.93686 54589 75622 56428 49845 117	(501)
63	3.93766 83143 99005 10838 83025 031	(503)
69	3.93796 90029 51452 83748 27537 642	(504)
77	3.93836 95974 51806 31421 10367 444	(362)
81	3.93856 97562 21061 17134 72504 173	(504)
89	3.93896 97972 22890 23783 20904 729	(449)
93	3.93916 96796 25177 43706 78349 696	(504)
99	3.93946 93308 43530 13365 90322 910	(501)
8707	3.93986 85444 59509 71791 44940 987	(504)
13	3.94016 77140 34074 92982 10722 782	(507)
19	3.94046 66776 63528 94272 70718 242	(507)
31	3.94106 39882 19902 01745 36849 957	(508)
37	3.94136 23357 11761 12795 19120 745	(508)
41	3.94156 11202 36070 78705 27817 418	(508)
47	3.94185 91265 25373 53282 60349 646	(509)
53	3.94215 69284 67490 45136 06697 967	(509)
61	3.94255 36803 34209 92471 73009 834	(465)
79	3.94344 50490 25030 43395 00246 636	(333)
83	3.94364 28827 52129 01876 16656 422	(317)
8803	3.94463 07018 56278 24107 05380 853	(509)
07	3.94482 79963 43216 24637 77351 385	(505)
19	3.94541 93426 03063 16536 46941 709	(505)
21	3.94551 78220 77839 61979 91176 392	(507)
31	3.94600 98847 65764 87961 63615 920	(510)

N	logarithm	references
8837	3.94630 48549 93474 92284 38906 118	(510)
39	3.94640 31338 99054 59962 24016 049	(320)
49	3.94689 41951 02326 77328 14133 287	(513)
61	3.94748 27365 56918 62256 51412 263	(510)
63	3.94758 07493 04322 49683 18381 994	(505)
67	3.94777 67084 64738 29950 34116 231	(73,258)
87	3.94875 51801 68269 82908 15123 762	(423)
93	3.94904 82923 15663 81103 78570 374	(511)
8923	3.95051 08929 85996 59662 27587 943	(511)
29	3.95080 28229 64658 51062 34583 797	(511)
33	3.95099 73339 88804 97671 62576 998	(119,257)
41	3.95138 60948 80292 82022 22337 773	(512)
51	3.95187 15571 28364 35272 13431 409	(393)
63	3.95245 33964 23033 23373 47066 786	(513)
69	3.95274 40240 14898 36212 27391 282	(512)
71	3.95284 08566 75701 58320 89575 334	(512)
99	3.95419 42518 15862 44817 74603 475	(42,257)
9001	3.95429 07617 01126 99749 54662 665	(42,257)
07	3.95458 01627 43757 34765 63622 613	(405)
11	3.95477 29896 89717 10170 52165 959	(513)
13	3.95486 93710 66478 24585 20517 230	(394)
29	3.95563 96530 23251 94401 81398 992	(509)
41	3.95621 64692 43390 08379 03789 019	(514)
43	3.95631 25308 41194 53131 36400 060	(514)
49	3.95660 05882 13176 66363 13962 572	(514)

N	logarithm	references
9059	3.95708 02596 57899 86145 59071 529	(294)
67	3.95746 36157 29931 28938 44232 456	(506)
91	3.95861 16577 64879 41243 66555 222	(35,540)
9103	3.95918 45427 31191 48728 53896 956	(515)
09	3.95947 07020 75107 10324 02935 223	(515)
27	3.96032 80505 30143 14194 51769 353	(515)
33	3.96061 34576 47908 81596 93783 588	(470)
37	3.96080 36249 11769 74502 85404 593	(516)
51	3.96146 85553 50786 34277 68487 015	(515)
57	3.96175 32141 86782 57360 83797 065	(349)
61	3.96194 28831 41387 25887 22444 607	(506)
73	3.96251 13935 07596 90184 04731 539	(516)
81	3.96288 99873 91791 17046 71176 200	(516)
87	3.96317 37163 75251 64733 17098 233	(517)
99	3.96374 06188 57884 10366 86384 933	(81,256)
9203	3.96392 94220 26558 46643 70678 470	(484)
09	3.96421 24729 69819 22879 79966 836	(517)
21	3.96477 80220 22376 03976 10965 167	(341)
27	3.96506 05206 11198 56070 27714 044	(517)
39	3.96562 49671 09242 77867 86907 916	(518)
41	3.96571 89702 44220 88150 89284 219	(518)
57	3.96647 02637 29284 41465 03244 421	(383)
77	3.96740 75565 97472 81311 79016 773	(365)
81	3.96759 47726 71889 75112 92448 842	(506)
83	3.96768 83504 53312 61800 00062 351	(427)

N	logarithm	references
9293	3.96815 59371 49970 49585 82794 925	(307)
9311	3.96899 63266 48312 25427 83783 041	(519)
19	3.96936 93117 33527 48135 71940 618	(248)
23	3.96955 56842 20843 52875 52420 254	(422)
37	3.97020 73588 06854 63963 26168 884	(519)
41	3.97039 33720 79600 13789 78101 799	(519)
43	3.97048 63488 47650 23658 88461 754	(519)
49	3.97076 51597 80767 70438 64234 355	(520)
71	3.97178 59378 79114 41615 98975 992	(520)
77	3.97206 39160 08022 24675 28706 025	(520)
91	3.97271 18405 47066 53352 98215 737	(521)
97	3.97298 92268 55348 79897 65510 955	(521)
9403	3.97326 64361 08528 64489 33393 800	(71,256)
13	3.97372 80586 88027 41524 04198 076	(521)
19	3.97400 47968 97414 64344 90490 954	(523)
21	3.97409 70037 94131 13067 14757 624	(522)
31	3.97455 77448 53579 91835 03725 453	(522)
33	3.97464 98344 38722 09525 99649 354	(522)
37	3.97483 39550 48540 06293 31403 320	(523)
39	3.97492 59860 89762 44860 40678 599	(367)
61	3.97593 70424 83110 62274 25842 294	(265)
63	3.97602 88400 91125 88463 06103 044	(510)
67	3.97621 23771 17377 10966 11352 458	(523)
73	3.97648 75373 05189 93663 29515 368	(517)
79	3.97676 25232 67460 63319 23319 994	(524)

N	logarithm	references
9491	3.97731 19733 96925 99472 70333 683	(524)
97	3.97758 64380 03851 13929 19639 127	(524)
9511	3.97822 61816 74525 90045 69775 037	(525)
21	3.97868 25651 56944 54470 86098 293	(499)
33	3.97922 95930 22155 35418 05095 030	(525)
39	3.97950 28487 87401 26896 74834 464	(525)
47	3.97986 69225 64902 82454 15928 687	(526)
51	3.98004 88450 64956 75368 87598 618	(398)
87	3.98168 27273 71285 37570 04656 370	(385)
9601	3.98231 64696 92065 25317 95758 110	(79,256)
13	3.98285 89423 12075 22367 00187 427	(526)
19	3.98312 99247 34700 07999 16075 948	(264)
23	3.98331 04857 94115 54556 65867 835	(304)
29	3.98358 11867 05790 70222 89776 080	(526)
31	3.98367 13828 60196 57535 05610 556	(526)
43	3.98421 21667 61433 85166 43513 918	(527)
49	3.98448 23064 02262 75213 43942 914	(464)
61	3.98502 20821 09535 16687 02830 109	(527)
77	3.98574 07410 50074 57320 06091 712	(528)
79	3.98583 04898 58392 16630 21188 934	(528)
89	3.98627 89559 05991 21823 48522 485	(528)
97	3.98663 73956 10153 87157 83713 596	(528)
9719	3.98762 15821 25483 75900 74551 572	(529)
21	3.98771 09431 30305 87937 80476 487	(434)
33	3.98824 67233 75378 37516 30432 806	(331,53)

N	logarithm	references
9739	3.98851 43658 33666 11726 06314 047	(406)
43	3.98869 27025 49816 76578 87116 053	(529)
49	3.98896 00703 90338 03659 98879 456	(529)
67	3.98976 11877 18778 18760 47965 355	(530)
69	3.98985 01096 03180 41590 16302 256	(530)
81	3.99038 32589 06233 57456 81439 830	(530)
87	3.99064 95883 18854 40980 53498 201	(383)
91	3.99082 70505 67478 85179 65250 068	(531)
9803	3.99135 90026 37950 26440 38668 456	(307)
11	3.99171 32757 13089 45880 89142 591	(288)
17	3.99197 87909 94583 62553 88511 386	(531)
29	3.99250 93350 67775 49984 86132 447	(314)
33	3.99268 60391 62127 91277 90796 903	(531)
39	3.99295 09605 70446 44482 30635 118	(532)
51	3.99348 03190 69996 50782 02803 149	(532)
57	3.99374 47565 54462 32426 77460 185	(320)
59	3.99383 28666 13986 14368 58305 098	(532)
71	3.99436 11519 08001 02224 42021 282	(186)
83	3.99488 87953 64910 63409 67446 911	(353)
87	3.99506 45341 56141 53419 37487 742	(533,538)
9901	3.99567 90605 11622 18188 04525 657	(110,256,538)
07	3.99594 21629 92550 62868 03951 693	(533)
23	3.99664 29913 55472 47436 55007 496	(535)
29	3.99690 55106 95666 15285 74767 353	(535,538)
31	3.99699 29818 90705 70612 90604 810	(535,537)

(6)

N	logarithm	references
9941	3.99743 00737 97471 20240 60962 933	(379)
49	3.99777 94308 65603 95661 14994 351	(533,537)
67	3.99856 44582 60941 64707 14642 561	(534,537)
73	3.99882 58190 40286 04819 15214 074	(534,537)
$\overline{0007}$	4.00030 38997 84812 49181 05176 677	(539)
09	4.00039 06892 49910 13102 88642 233	(539)
37	4.00160 39241 49797 80304 22599 038	(125,356)
39	4.00169 04542 32153	
61	4.00264 11490 00040	
67	4.00290 00686 11387	
69	4.00298 63408 56785	
79	4.00341 74452 02194	
91	4.00393 42061 73708 37129 17628 915	(54,351)
93	4.00402 02732 53242	
99	4.00427 83722 00162	
0103	4.00445 03529 89224	
11	4.00479 41103 88712	
33	4.00573 80426 51425	
39	4.00599 51230 54691	
41	4.00608 07827 16094	
51	4.00650 88277 75290	
59	4.00685 09603 24272	
63	4.00702 19255 78681	
69	4.00727 82473 34244	
77	4.00761 97745 17403	

N	logarithm	references
1		
0181	4.00779 04374 45979	
93	4.00830 20242 12001	
0211	4.00906 82761 92219	
23	4.00957 83607 94542	
43	4.01042 71727 17049	
47	4.01059 67362 06525	
53	4.01085 09573 73923	
59	4.01110 50298 15980	
67	4.01144 35620 22075	
71	4.01161 27292 19424	
73	4.01169 72881 14142	
89	4.01237 31672 22490	
0301	4.01287 93871 71290	
03	4.01296 36998 25778	
13	4.01338 50177 49685	
21	4.01372 17780 51063	
31	4.01414 23615 45006	
33	4.01422 64293 89229 48097 27120 000	(101)
37	4.01439 45162 73535	
43	4.01464 65246 84032	
57	4.01523 39762 46708	
69	4.01573 68744 77450	
91	4.01665 73448 22202	
99	4.01699 15782 06205	
0427	4.01815 93735 40910	

N	logarithm	references
1		
0429	4.01824 26674 57910	
33	4.01840 92073 82068 39405 22963 484	(316)
53	4.01924 09503 95851	
57	4.01940 71080 18883	
59	4.01949 01629 97508	
63	4.01965 62253 19349	
77	4.02023 69439 10808	
87	4.02065 12680 04342	
99	4.02114 79357 20995	
0501	4.02123 06584 79703	
13	4.02172 66644 13777	
29	4.02238 71256 86438	
31	4.02246 96127 67769	
59	4.02362 27898 79006 78544 66075 092	(64)
67	4.02395 17074 23388	
89	4.02485 49483 05018	
97	4.02518 29343 35449	
0601	4.02534 68345 09827 10815 44750 572	(92)
07	4.02559 25688 51674	
13	4.02583 81642 29700	
27	4.02641 06805 78774	
31	4.02657 41181 50334	
39	4.02690 08088 90255	
51	4.02739 03846 84969	
57	4.02763 49657 77544	

N	logarithm	references
1		
0663	4.02787 94092 07207	
67	4.02804 22950 90750	
87	4.02885 58093 90444	
91	4.02901 83295 46482	
0709	4.02974 89185 66837	
11	4.02983 00193 10659	
23	4.03031 63059 88585	
29	4.03055 92452 91156	
33	4.03072 11293 60462	
39	4.03096 38423 78275	
53	4.03152 96458 03423	
71	4.03225 60258 90453	
81	4.03265 90460 39924	
89	4.03298 11930 97368	
99	4.03338 35411 73119	
0831	4.03466 85558 34241	
37	4.03490 90733 67748	
47	4.03530 96401 56801	
53	4.03554 98030 10057	
59	4.03578 98331 27757	
61	4.03586 98136 95553	
67	4.03610 96670 60580	
83	4.03674 86291 72202	
89	4.03698 79978 06906	
91	4.03706 77580 42558	

N	logarithm	references
1		
0903	4.03754 60120 85827	
09	4.03778 49417 53638	
37	4.03889 82121 14533	
39	4.03897 76223 32692	
49	4.03937 44557 68474	
57	4.03969 16616 49026	
73	4.04032 53791 99724	
79	4.04056 27850 81312	
87	4.04087 91245 15787	
93	4.04111 62279 69485	
1003	4.04151 11129 59323	
27	4.04245 73745 74321	
47	4.04324 43540 08484	
57	4.04363 73095 92571	
59	4.04371 58580 61206	
69	4.04410 83874 46120	
71	4.04418 68507 67364	
83	4.04465 73332 34866	
87	4.04481 40475 28638	
93	4.04504 90129 88961	
1113	4.04583 13143 47755	
17	4.04598 76056 60967	
19	4.04606 57302 30688	
31	4.04653 41827 50970	
49	4.04723 59154 59681	

N	logarithm	references
1		
1159	4.04762 52775 81784	
61	4.04770 31081 34304	
71	4.04809 20518 12372	
73	4.04816 97987 66018	
77	4.04832 52509 31222	
97	4.04910 16782 08557	
1213	4.04972 18221 52435	
39	4.05072 76712 15053	
43	4.05088 22106 64029	
51	4.05119 11246 85699	
57	4.05142 26660 89034	
61	4.05157 69584 72540	
73	4.05203 95070 01472	
79	4.05227 05966 56749	
87	4.05257 85250 44658	
99	4.05304 00086 42747	
1311	4.05350 10023 86415	
17	4.05373 13158 87607	
21	4.05388 47903 94692	
29	4.05419 15767 96432	
51	4.05503 41236 74614	
53	4.05511 06378 54146	
69	4.05572 22664 83576	
83	4.05625 67358 50139 05796 21572 325	(331)
93	4.05663 80973 79653	

N	logarithm	references
1		
1399	4.05686 67536 58313	
1411	4.05732 37053 69284	
23	4.05778 01767 94582	
37	4.05831 21211 08386	
43	4.05853 98979 39781	
47	4.05869 16828 19230	
67	4.05944 98125 07961	
71	4.05960 12797 62754	
83	4.06005 53648 24845	
89	4.06028 22294 38346	
91	4.06035 78246 48616	
97	4.06058 45313 60865	
1503	4.06081 11197 91346	
19	4.06141 47782 77073	
27	4.06171 62931 59897	
49	4.06254 43813 46465	
51	4.06261 95838 54342	
79	4.06367 10539 30717 60774 31044 886	(104)
87	4.06397 10069 64762	
93	4.06419 58358 64643	
97	4.06434 56571 62171	
1617	4.06509 39893 57152	
21	4.06524 35011 86464	
33	4.06569 17280 93271	
57	4.06658 67964 70694	

N	logarithm	references
1		
1677	4.06733 12802 08168	
81	4.06748 00239 31483	
89	4.06777 73586 33317	
99	4.06814 87409 73294	
1701	4.06822 29793 46449	
17	4.06881 64299 22220	
19	4.06889 05542 57935	
31	4.06933 50347 89939	
43	4.06977 90608 81514	
77	4.07103 46750 54152	
79	4.07110 84217 82450	
83	4.07125 58776 81295	
89	4.07147 69676 98918	
1801	4.07191 88103 63806	
07	4.07213 95632 39740 18879 73177 791	(156)
13	4.07236 02039 63488	
21	4.07265 42173 33034	
27	4.07287 45968 10989	
31	4.07302 14543 59739	
33	4.07309 48645 15746	
39	4.07331 50205 60628	
63	4.07419 45304 01818	
67	4.07434 09423 65077	
87	4.07507 22627 06119	
97	4.07543 74615 85613	

(7)

N	logarithm	references
1		
1903	4.07565 64335 97934	
09	4.07587 52952 59833	
23	4.07638 55439 54533	
27	4.07653 12192 53812	
33	4.07674 96406 24000	
39	4.07696 79521 97919	
41	4.07704 06983 42461	
53	4.07747 69195 04342	
59	4.07769 48658 86586	
69	4.07805 78669 79187	
71	4.07813 04308 02564	
81	4.07849 30681 66573	
87	4.07871 05053 28276	
2007	4.07943 45106 33744	
11	4.07957 91669 70131	
37	4.08051 82605 27118	
41	4.08066 25563 94183	
43	4.08073 46863 53143	
49	4.08095 10043 79483	
71	4.08174 32499 22721	
73	4.08181 52006 32280	
97	4.08267 76806 48112	
2101	4.08282 12609 39329	
07	4.08303 65424 11965	
09	4.08310 82791 94735	

N	logarithm	references
1		
2113	4.08325 17172 21603	
19	4.08346 67854 73887	
43	4.08432 59950 16827	
49	4.08454 05320 61485	
57	4.08482 64166 97433	
61	4.08496 92884 74987	
63	4.08504 07067 42194	
97	4.08625 30238 17161	
2203	4.08646 66112 71582	
11	4.08675 12312 42057	
27	4.08731 99122 06401	
39	4.08774 59347 84734	
41	4.08781 68979 35529	
51	4.08817 15398 64352	
53	4.08824 24335 11572	
63	4.08859 67282 62746	
69	4.08880 91664 61293	
77	4.08909 22558 42719	
81	4.08923 37313 65398	
89	4.08951 65442 24821	
2301	4.08994 04184 98635	
23	4.09071 64484 81099	
29	4.09092 78525 81608	
43	4.09142 07289 92051	
47	4.09156 14481 44972	

N	logarithm	references
1		
2373	4.09247 50129 25980	
77	4.09261 53909 41555	
79	4.09268 55629 37491	
91	4.09310 63569 77907	
2401	4.09345 67074 98604	
09	4.09373 67845 62339	
13	4.09387 67553 90045	
21	4.09415 65617 82523	
33	4.09457 59336 49249	
37	4.09471 56343 28187	
51	4.09520 42331 21819	
57	4.09541 34644 48446	
73	4.09597 09223 43715	
79	4.09617 97847 14798	
87	4.09645 81117 17453	
91	4.09659 72083 57894	
97	4.09680 57698 22717	
2503	4.09701 42311 78033	
11	4.09729 20240 91896	
17	4.09750 02522 31686	
27	4.09784 70774 23337	
39	4.09826 29023 79930	
41	4.09833 21678 47685	
47	4.09853 98979 92862	
53	4.09874 75288 24818	

N	logarithm	references
1		
2569	4.09930 07262 33463	
77	4.09957 70609 16708	
83	4.09978 41966 03578	
89	4.09999 12335 44684	
2601	4.10040 50115 65889	
11	4.10074 95256 89860	
13	4.10081 83957 31536	
19	4.10102 49403 52695	
37	4.10164 39854 90313	
41	4.10178 14313 27967	
47	4.10198 75185 58299	
53	4.10219 35080 39744	
59	4.10239 93998 64983	
71	4.10281 08909 16915	
89	4.10342 73973 82768	
97	4.10370 11195 89514	
2703	4.10390 62980 88718	
13	4.10424 80469 90444	
21	4.10452 12526 18329	
39	4.10513 53376 12572	
43	4.10527 16831 06794	
57	4.10574 85555 26993	
63	4.10595 27692 36980	
81	4.10656 48348 46764	
91	4.10690 44989 35643	

N	logarithm	references
1		
2799	4.10717 60390 66039	
2809	4.10751 52256 51465	
21	4.10792 19001 86279	
23	4.10798 96422 67512	
29	4.10819 28051 35042	
41	4.10859 88459 73567	
53	4.10900 45075 41385	
89	4.11021 92236 89404	
93	4.11035 39826 64002	
99	4.11055 60427 55381	
2907	4.11082 53100 54965	
11	4.11095 98811 24878	
17	4.11116 16595 77588	
19	4.11122 88982 34156	
23	4.11136 33443 25131	
41	4.11196 78372 06073	
53	4.11237 03655 25832	
59	4.11257 14898 64979	
67	4.11283 95108 45115	
73	4.11304 04180 87820	
79	4.11324 12324 32599	
83	4.11337 50570 94902	
3001	4.11397 67582 89846 45225 78179 528	(98)
03	4.11404 35625 48077	
07	4.11417 71402 44449	

N	logarithm	references
1		
3009	4.11424 39136 88907	
33	4.11504 43952 58413	
37	4.11517 76655 26249	
43	4.11537 74942 79117	
49	4.11557 72311 28523	
63	4.11604 29268 49206	
93	4.11703 91678 77679	
99	4.11723 81421 39820	
3103	4.11737 07410 20906	
09	4.11756 95634 63827	
21	4.11796 69354 91767	
27	4.11816 54852 43124	
47	4.11882 66629 33290	
51	4.11895 87777 66434	
59	4.11922 28869 23583	
63	4.11935 48812 96426	
71	4.11961 87497 52575	
77	4.11981 65459 37216	
83	4.12001 42520 78067	
87	4.12014 60061 88112	
3217	4.12113 28899 98409	
19	4.12119 86025 84690	
29	4.12152 70164 55379	
41	4.12192 07855 63038	
49	4.12218 31000 93868	

N	logarithm	references
1		
3259	4.12251 07706 10320	
67	4.12277 27291 38599	
91	4.12355 76580 03949	
97	4.12375 36687 55841	
3309	4.12414 54250 61654	
13	4.12427 59320 06338	
27	4.12473 23977 20029	
31	4.12486 27284 23057	
37	4.12505 81511 72073	
39	4.12512 32725 51998	
67	4.12603 39480 51813	
81	4.12648 85707 00375	
97	4.12700 75573 71327	
99	4.12707 23871 19455	
3411	4.12746 11625 11537	
17	4.12765 54197 75207	
21	4.12778 48763 62171	
41	4.12843 15810 93247	
51	4.12875 45726 90689	
57	4.12894 82524 09331	
63	4.12914 18457 92285	
69	4.12933 53529 16489	
77	4.12959 32283 67933	
87	4.12991 53575 04422	
99	4.13030 15973 41845	

N	logarithm	references
1		
3513	4.13075 17767 65143	
23	4.13107 30480 34346	
37	4.13152 24289 13070	
53	4.13203 54383 27499	
67	4.13248 38250 00562	
77	4.13280 38180 02000	
91	4.13325 14124 72320	
97	4.13344 30975 49098	
3613	4.13395 38445 17957	
19	4.13414 52198 80295	
27	4.13440 02559 18984	
33	4.13459 14347 10877	
49	4.13510 08337 65720	
69	4.13573 67435 09474	
79	4.13605 43495 51056	
81	4.13611 78428 96476	
87	4.13630 82672 55813	
91	4.13643 51704 58383	
93	4.13649 86081 56699	
97	4.13662 54557 60932	
3709	4.13700 57764 29099	
11	4.13706 91308 39408	
21	4.13738 57643 33970	
23	4.13744 90633 40335	
29	4.13763 89050 22756	

(8)

N	logarithm	references
1		
3751	4.13833 42820 71019	
57	4.13852 37372 79158	
59	4.13858 68706 53583	
63	4.13871 31098 76012	
81	4.13928 07327 18524	
89	4.13953 27715 97939	
99	4.13984 76146 46311	
3807	4.14009 93248 50794	
29	4.14079 07766 25302	
31	4.14085 35813 22722	
41	4.14116 74686 46232	
59	4.14173 18947 67141	
73	4.14217 03862 76096	
77	4.14229 55882 89764	
79	4.14235 81757 63846	
83	4.14248 33236 59504	
3901	4.14304 60433 37588	
03	4.14310 85227 62513	
07	4.14323 34546 53170	
13	4.14342 07851 29937	
21	4.14367 04334 70161	
31	4.14398 22922 23977	
33	4.14404 46371 10949	
63	4.14497 87380 20031	
67	4.14510 31331 46382	

N	logarithm	references
1		
3997	4.14603 49626 02502	
99	4.14609 70135 35870	
4009	4.14640 71352 87053	
11	4.14646 91330 71870	
29	4.14702 67152 22231	
33	4.14715 05252 10071	
51	4.14770 72337 80410	
57	4.14789 26448 32850	
71	4.14832 49630 38817	
81	4.14863 34984 89349	
83	4.14869 51792 85065	
87	4.14881 85146 02018	
4107	4.14943 46663 43169	
43	4.15054 15413 74086 13056 61291 698	(111)
49	4.15072 57465 86194	
53	4.15084 85066 69523	
59	4.15103 25817 56442	
73	4.15146 17871 24331	
77	4.15158 43393 59897	
97	4.15219 65823 34209	
4207	4.15250 23804 61126	
21	4.15293 01364 22726	
43	4.15360 14742 88411 03948 66026 765	(321)
49	4.15378 43864 69370	
51	4.15384 53400 80965	

N	logarithm	references
1		
4281	4.15475 86191 54177	
93	4.15512 33937 10712	
4303	4.15542 71386 39798	
21	4.15597 33447 39902	
23	4.15603 39919 23621	
27	4.15615 52608 89687	
41	4.15657 94358 04574	
47	4.15676 10983 06624	
69	4.15742 65447 80450	
87	4.15797 02436 04713	
89	4.15803 06125 90340	
4401	4.15839 26503 87120	
07	4.15857 35561 72256	
11	4.15869 41181 77861	
19	4.15893 51418 29918	
23	4.15905 56035 13487	
31	4.15929 64266 88385	
37	4.15947 69564 74234	
47	4.15977 76727 87248	
49	4.15983 77910 71107	
61	4.16019 83261 16569	
79	4.16073 85681 12582	
89	4.16103 84124 22962	
4503	4.16145 78469 71751	
19	4.16193 67052 45781	

N	logarithm	references
1		
4533	4.16235 52735 52079	
37	4.16247 47904 38118	
43	4.16265 40041 19576	
49	4.16283 31438 78160	
51	4.16289 28407 14254	
57	4.16307 18820 03819	
61	4.16319 12018 70468	
63	4.16325 08495 12631	
91	4.16408 50574 58859	
93	4.16414 45824 70178	
4621	4.16497 70771 10886	
27	4.16515 52613 92066	
29	4.16521 46399 10329	
33	4.16533 33725 96983	
39	4.16551 14107 85553	
53	4.16592 65496 09096	
57	4.16604 50878 51225	
69	4.16640 05085 75068	
83	4.16681 47987 90912	
99	4.16728 77899 00932	
4713	4.16770 12349 71368	
17	4.16781 92898 77132	
23	4.16799 63120 86880 21816 88321 270	(322)
31	4.16823 22295 13421	
37	4.16840 90835 19626	

N	logarithm	references
1		
4741	4.16852 69461 92689	
47	4.16870 36802 49077	
53	4.16888 03424 13643	
59	4.16905 69327 44852	
67	4.16929 22748 79936	
71	4.16940 98981 40701	
79	4.16964 50491 34955	
83	4.16976 25769 02915	
97	4.17017 36738 06271	
4813	4.17064 30228 36110	
21	4.17087 75072 75580	
27	4.17105 32875 59376	
31	4.17117 04349 01621	
43	4.17152 16874 50447	
51	4.17175 56980 88238	
67	4.17222 33414 27753	
69	4.17228 17614 55001	
79	4.17257 37437 71971	
87	4.17280 71883 69087	
91	4.17292 38636 28545	
97	4.17309 88177 66228	
4923	4.17385 61389 86270	
29	4.17403 07180 38025	
39	4.17432 15272 64040	
47	4.17455 40345 20830	

N	logarithm	references
1		
4951	4.17467 02414 87047	
57	4.17484 44936 55456	
69	4.17519 27883 86603	
83	4.17559 87795 18376	
5013	4.17646 74845 99134	
17	4.17658 31807 65493	
31	4.17698 78748 00811	
53	4.17762 30616 31355	
61	4.17785 38085 22300	
73	4.17819 96991 48060	
77	4.17831 49348 32160	
83	4.17848 77310 47398	
91	4.17871 80191 05769	
5101	4.17900 57075 64820	
07	4.17917 82292 09794	
21	4.17958 05133 95409	
31	4.17986 76312 70407	
37	4.18003 98109 27176	
39	4.18009 71889 80094	
49	4.18038 39655 89764	
61	4.18072 78477 44507	
73	4.18107 14578 22617	
87	4.18147 19929 46307	
93	4.18164 35378 39348	
99	4.18181 50149 99474	

N	logarithm	references
1		
5217	4.18232 90406 16705	
27	4.18261 43477 36350	
33	4.18278 54420 84683	
41	4.18301 34630 81929	
59	4.18352 60730 21722	
63	4.18363 99042 21352	
69	4.18381 05950 98135	
71	4.18386 74771 52165	
77	4.18403 80786 26889	
87	4.18432 22655 77157	
89	4.18437 90806 58596	
99	4.18466 30446 29680	
5307	4.18489 00821 99722	
13	4.18506 02825 21393	
19	4.18523 04161 67563	
29	4.18551 38242 18539	
31	4.18557 04836 42220	
49	4.18608 00860 91452	
59	4.18636 29403 94731	
61	4.18641 94891 55475	
73	4.18675 86271 81614	
77	4.18687 16143 64535	
83	4.18704 10400 42329	
91	4.18726 68381 79294	
5401	4.18754 89208 61271	

N	logarithm	references
1		
5413	4.18788 71784 09548	
27	4.18828 14795 22667	
39	4.18861 91672 07849	
43	4.18873 16714 45743	
51	4.18895 65925 26399	
61	4.18923 75801 66831	
67	4.18940 60855 29229	
73	4.18957 45255 37250	
93	4.19013 55208 77031	
97	4.19024 76330 38196	
5511	4.19063 97978 44684	
27	4.19108 75530 04550	
41	4.19147 89604 43600	
51	4.19175 83213 70448	
59	4.19198 16808 00330	
69	4.19226 07186 42044	
81	4.19259 53275 69212	
83	4.19265 10706 67979	
5601	4.19315 24368 52077 18341 56401 971	(127)
07	4.19331 94303 74477	
19	4.19365 32249 07199	
29	4.19393 11911 74947	
41	4.19426 45160 25517	
43	4.19432 00453 03422	
47	4.19443 10825 63702	

(9)

N	logarithm	references
1		
5649	4.19448 65905 49706	
61	4.19481 94895 62035	
67	4.19498 58434 25881	
71	4.19509 67106 11856	
79	4.19531 83601 13014	
83	4.19542 91424 57063	
5727	4.19664 58867 87088	
31	4.19675 63310 57987	
33	4.19681 15426 62676	
37	4.19692 19448 19459	
39	4.19697 71353 75119	
49	4.19725 29829 97390	
61	4.19758 37690 35777	
67	4.19774 90676 22612	
73	4.19791 43033 18418	
87	4.19829 96089 67687	
91	4.19840 96335 37761	
97	4.19857 46181 47281	
5803	4.19873 95401 04416	
09	4.19890 43994 56732	
17	4.19912 41146 23325	
23	4.19928 88280 82406	
59	4.20027 57991 11851	
77	4.20076 84447 83171	
81	4.20087 78457 49026	

N	logarithm	references
1		
5887	4.20104 18955 42680	
89	4.20109 65650 39467	
5901	4.20142 44375 79912	
07	4.20158 82810 73519	
13	4.20175 20627 78252	
19	4.20191 57827 40697	
23	4.20202 48951 04038	
37	4.20240 65726 39379	
59	4.20300 56747 28483	
71	4.20333 21096 81706	
73	4.20338 64916 60478	
91	4.20387 56232 77334	
6001	4.20414 71252 12848	
07	4.20430 99449 40537	
33	4.20501 47925 69004	
57	4.20566 44073 71687	
61	4.20577 25820 98420	
63	4.20582 66593 59342	
67	4.20593 47936 84682	
69	4.20598 88507 52452	
73	4.20609 69447 06567	
87	4.20647 50618 16685 95543 87020 793	(69)
91	4.20658 30348 37791 11958 65747 755	(122)
97	4.20674 49440 53747	
6103	4.20690 67929 30864	

N	logarithm	references
1		
6111	4.20712 24976 50963 96707 24566 421	(60)
27	4.20755 35859 49307	
39	4.20787 66215 91972	
41	4.20793 04375 12971	
83	4.20905 90341 28798	
87	4.20916 63667 16777	
89	4.20922 00230 64993	
93	4.20932 73158 78065	
6217	4.20997 05167 09344	
23	4.21013 11681 84136	
29	4.21029 17602 53723	
31	4.21034 52777 50020	
49	4.21082 66386 78256	
53	4.21093 35353 57622	
67	4.21130 74666 68954	
73	4.21146 76244 39142	
6301	4.21221 42474 19941	
19	4.21269 35424 21026	
33	4.21306 59620 65718	
39	4.21322 54727 73401	
49	4.21349 11938 30334	
61	4.21380 98446 41501	
63	4.21386 29303 86819	
69	4.21402 21487 00433	
81	4.21434 04103 19735	

N	logarithm	references
1		
6411	4.21513 50454 80261	
17	4.21529 37981 86514	
21	4.21539 96010 93890	
27	4.21555 82571 41162	
33	4.21571 68552 49524	
47	4.21608 66924 21913	
51	4.21619 23023 63926	
53	4.21624 50977 05822	
77	4.21687 81417 02857	
81	4.21698 35593 82094	
87	4.21714 16379 38281	
93	4.21729 96589 76496	
6519	4.21798 37531 76437	
29	4.21824 65796 68302	
47	4.21871 92669 00493	
53	4.21887 67150 52757	
61	4.21908 65571 69252	
67	4.21924 38722 45316	
73	4.21940 11303 57560	
6603	4.22018 65679 03276	
07	4.22029 11856 65155	
19	4.22060 48878 26682	
31	4.22091 83635 56553	
33	4.22097 05875 20288	
49	4.22138 81533 06345	

N	logarithm	references
1		
6651	4.22144 03208 11741	
57	4.22159 67857 40263	
61	4.22170 10643 84597	
73	4.22201 37501 71359	
91	4.22248 23571 38911	
93	4.22253 43933 81713	
99	4.22269 04647 11341	
6703	4.22279 44811 13707	
29	4.22346 99811 61920	
41	4.22378 13963 99814	
47	4.22393 70203 19982	
59	4.22424 81009 62593	
63	4.22435 17450 13417	
87	4.22497 30904 28833	
6811	4.22559 35481 54800	
23	4.22590 34449 26160	
29	4.22605 83104 27113	
31	4.22610 99199 91274	
43	4.22641 94486 48603	
71	4.22714 08254 23186	
79	4.22734 67131 81426	
83	4.22744 96204 69842	
89	4.22760 39356 96588	
6901	4.22791 24017 51748	
03	4.22796 37914 66860	

N	logarithm	references
1		
6921	4.22842 60254 67109	
27	4.22857 99942 04920	
31	4.22868 26097 12965	
37	4.22883 64875 27934	
43	4.22899 03108 40724	
63	4.22950 26620 85074	
79	4.22991 21083 30147	
81	4.22996 32619 79429	
87	4.23011 66867 86219	
93	4.23027 00574 11205	
7011	4.23072 98445 77680	
21	4.23098 50717 13554	
27	4.23113 81360 29719 11837 19046 211	(71)
29	4.23118 91454 82668	
33	4.23129 11464 18349	
41	4.23149 50764 48229	
47	4.23164 79611 53600	
53	4.23180 07920 57899	
77	4.23241 15784 20846	
93	4.23281 82926 27360	
99	4.23297 07123 11390	
7107	4.23317 38553 80943	
17	4.23342 76506 67445	
23	4.23357 98566 79016	
37	4.23393 47967 30685	

N	logarithm	references
1		
7159	4.23449 19742 38988	
67	4.23469 44071 42218	
83	4.23509 89900 94939	
89	4.23525 06115 84401	
91	4.23530 11403 19991	
7203	4.23560 41893 39838	
07	4.23570 51587 05454	
09	4.23575 56345 86718	
31	4.23631 04824 32331	
39	4.23651 20696 62828	
57	4.23696 52991 02980	
91	4.23782 01107 94065	
93	4.23787 03414 76738	
99	4.23802 09986 75949	
7317	4.23847 26569 48356	
21	4.23857 29616 96629	
27	4.23872 33753 95398	
33	4.23887 37370 17870	
41	4.23907 41382 35894	
51	4.23932 45097 87797	
59	4.23952 47031 56667	
77	4.23997 48011 16938	
83	4.24012 47301 68566	
87	4.24022 46541 22278	
89	4.24027 46074 78889	

N	logarithm	references
1		
7393	4.24037 44969 58233	
7401	4.24057 42070 18384	
17	4.24097 33518 40004	
19	4.24102 32191 59143	
31	4.24132 23028 88773 03308 71540 735	(157)
43	4.24162 11807 91424	
49	4.24177 05426 46124	
67	4.24221 83202 47612	
71	4.24231 77637 15195	
77	4.24246 68862 35341	
83	4.24261 59575 69265	
89	4.24276 49777 52096	
91	4.24281 46397 85530	
97	4.24296 35918 21483	
7509	4.24326 13427 20585	
19	4.24350 93126 26775	
39	4.24400 48280 91453	
51	4.24430 18662 21177	
69	4.24474 70428 36140	
73	4.24484 59090 32436	
79	4.24499 41661 39669	
81	4.24504 35739 30610	
97	4.24543 86340 35767	
99	4.24548 79912 90270	
7609	4.24573 46934 56586	

(10)

N	logarithm	references
1		
7623	4.24607 98412 23767	
27	4.24617 84045 10863	
57	4.24691 69170 14926	
59	4.24696 61065 58743	
69	4.24721 19707 42112	
81	4.24750 68241 49921	
83	4.24755 59469 28155	
7707	4.24814 49872 87778	
13	4.24829 21226 30316	
29	4.24868 42400 15480	
37	4.24888 01660 24286	
47	4.24912 49493 03172	
49	4.24917 38894 07112	
61	4.24946 74142 72290	
83	4.25000 50284 86896	
89	4.25015 15351 16612	
91	4.25020 03596 78991	
7807	4.25059 07587 00193	
27	4.25107 82644 84002	
37	4.25132 18123 15588	
39	4.25137 05054 96702	
51	4.25166 25499 89794	
63	4.25195 43982 27402	
81	4.25239 18031 81244	
91	4.25263 46157 12395	

N	logarithm	references
1		
7903	4.25292 58116 65800	
09	4.25307 13364 57255	
11	4.25311 98338 86887	
21	4.25336 22398 33069	
23	4.25341 07047 90367	
29	4.25355 60672 20120	
39	4.25379 82298 68250	
57	4.25423 37826 50146	
59	4.25428 21504 50831	
71	4.25457 22441 87353	
77	4.25471 72184 23228	
81	4.25481 38410 34874	
87	4.25495 87346 57849	
89	4.25500 70217 91755	
8013	4.25558 60490 18557	
41	4.25626 06065 12207	
43	4.25630 87491 21934	
47	4.25640 50183 34166	
49	4.25645 31449 39036	
59	4.25669 36979 98196	
61	4.25674 17926 25255	
77	4.25712 63580 22593	
89	4.25741 45587 62187	
97	4.25760 65863 92311	
8119	4.25813 42249 92771	

N	logarithm	references
1		
8121	4.25818 21603 66098	
27	4.25832 59347 48972	
31	4.25842 17579 01637	
33	4.25846 96615 50693	
43	4.25870 91005 69827	
49	4.25885 27006 42303	
69	4.25933 10249 17654	
81	4.25961 77668 14334	
91	4.25985 65738 59779	
99	4.26004 75249 95322	
8211	4.26033 37943 70303	
17	4.26047 68583 27423	
23	4.26061 98751 72372	
29	4.26076 28449 36168	
33	4.26085 81319 71141	
51	4.26128 66650 98458	
53	4.26133 42537 99131	
57	4.26142 94155 59447	
69	4.26171 47757 94366	
87	4.26214 24648 90878	
89	4.26218 99599 13006	
8301	4.26247 48210 20941	
07	4.26261 71815 38574	
11	4.26271 20626 31726	
13	4.26275 94954 06118	

N	logarithm	references
1		
8329	4.26313 87712 18142	
41	4.26342 30108 67385	
53	4.26370 70646 07431	
67	4.26403 82259 93121	
71	4.26413 27971 69258	
79	4.26432 18777 63006	
97	4.26474 70083 53527	
8401	4.26484 14253 29148	
13	4.26512 45531 59181	
27	4.26545 46358 43184	
33	4.26559 60230 87592	
39	4.26573 73643 17491	
43	4.26583 15662 55261	
51	4.26601 99088 53498	
57	4.26616 11122 19401	
61	4.26625 52222 97651	
81	4.26672 54670 31920	
93	4.26700 73696 64355	
8503	4.26724 21488 25605	
17	4.26757 06265 69338	
21	4.26766 44317 38859	
23	4.26771 13267 26692	
39	4.26808 63044 47384	
41	4.26813 31539 06103	
53	4.26841 41445 76542	

N	logarithm	references
1		
8583	4.26911 58268 95119	
87	4.26920 92989 38935	
93	4.26934 94692 94720	
8617	4.26990 96987 49761	
37	4.27037 60052 12022	
61	4.27093 49128 74858	
71	4.27116 75789 48088	
79	4.27135 36221 02484	
91	4.27163 25374 87123	
8701	4.27186 48302 19396	
13	4.27214 34175 91050	
19	4.27228 26442 90865	
31	4.27256 09638 61557	
43	4.27283 91051 84126	
49	4.27297 81090 73684	
57	4.27316 33784 12346	
73	4.27353 36801 51298	
87	4.27385 74353 71118	
93	4.27399 61137 59280	
97	4.27408 85414 22709 83507 54162 227	(38)
8803	4.27422 71460 45770	
39	4.27505 78461 20968	
59	4.27551 86605 11811	
69	4.27574 88844 79195	
99	4.27643 88250 21309	

N	logarithm	references
1		
8911	4.27671 44946 30292	
13	4.27676 04225 57778	
17	4.27685 22638 44274	
19	4.27689 81772 05339	
47	4.27754 04551 17431	
59	4.27781 54265 70865	
73	4.27813 60067 15478	
79	4.27827 33257 98168	
9001	4.27877 64579 55645	
09	4.27895 92706 84218	
13	4.27905 06481 99026	
31	4.27946 16092 57673	
37	4.27959 85099 04568	
51	4.27991 77770 23895	
69	4.28032 79187 47676	
73	4.28041 90087 76200	
79	4.28055 56080 06274	
81	4.28060 11315 36914	
87	4.28073 76735 04682	
9121	4.28151 06014 92656	
39	4.28191 92424 36253	
41	4.28196 46232 59900	
57	4.28232 74992 38526	
63	4.28246 34995 99315	
81	4.28287 12453 35205	

N	logarithm	references
1		
9183	4.28291 65267 95147	
9207	4.28345 95363 76994	
11	4.28354 99720 02684	
13	4.28359 51827 54537	
19	4.28373 07867 77881	
31	4.28400 18678 67715	
37	4.28413 73449 87011	
49	4.28440 81725 06199	
59	4.28463 37331 64590	
67	4.28481 40973 81231	
73	4.28494 93214 03674	
89	4.28530 97130 90267	
9301	4.28557 98107 29594	
09	4.28575 97825 45442	
19	4.28598 46424 87249	
33	4.28629 92509 42829	
73	4.28719 68784 66230	
79	4.28733 13627 20577	
81	4.28737 61815 52599	
87	4.28751 06103 03746	
91	4.28760 02063 59951	
9403	4.28786 88836 78560 23274 83686 860	(99)
17	4.28818 21306 13658	
21	4.28827 15882 54821	
23	4.28831 63101 66291	

N	logarithm	references
1		
9427	4.28840 57401 75751	
29	4.28845 04482 75636	
33	4.28853 98506 70456	
41	4.28871 86002 66807	
47	4.28885 26141 99748	
57	4.28907 58788 98220	
63	4.28920 97826 44986	
69	4.28934 36451 18635	
71	4.28938 82567 75777	
77	4.28952 20642 58166	
83	4.28965 58305 26750	
89	4.28978 95556 06911	
9501	4.29005 68823 03366	
07	4.29019 04839 70304	
31	4.29072 44800 19223	
41	4.29094 67847 34306	
43	4.29099 12320 25503	
53	4.29121 34002 73597	
59	4.29134 66466 89626	
71	4.29161 30169 39879	
77	4.29174 61408 24207	
83	4.29187 92239 14698	
97	4.29218 95926 23499	
9603	4.29232 25399 14916	
09	4.29245 54465 20636	

(11)

N	logarithm	references
1		
9661	4.29360 56031 92818	
81	4.29404 71613 43716	
87	4.29417 95412 92486	
97	4.29440 00849 09810 91274 15057 479	(47)
99	4.29444 41801 96873	
9709	4.29466 45895 00175	
17	4.29484 08364 38891	
27	4.29506 10445 77623	
39	4.29532 51470 42704	
51	4.29558 90889 99820	
53	4.29563 30637 34760	
59	4.29576 49612 29772	
63	4.29585 28706 43949	
77	4.29616 04135 37258	
93	4.29651 16246 61299	
9801	4.29668 71237 72401 82403 35929 329	(112)
13	4.29695 02395 36639	
19	4.29708 17376 64986	
41	4.29756 35571 09357	
43	4.29760 73323 82240	
53	4.29782 61425 85328	
61	4.29800 11114 07518	
67	4.29813 22917 79610	
89	4.29861 29477 59947	
91	4.29865 66173 91146	

N	logarithm	references
1		
9913	4.29913 66937 44014	
19	4.29926 75316 08602	
27	4.29944 19208 02092	
37	4.29965 98088 67020	
49	4.29992 11303 30194	
61	4.30018 22946 46901	
63	4.30022 58067 68158	
73	4.30044 33020 06028	
79	4.30057 37468 85434	
91	4.30083 45191 61612	
93	4.30087 79659 88570	
97	4.30096 48466 05394	
$\overline{0011}$	4.30126 87919 66063	
21	4.30148 57656 32598	
23	4.30152 91473 60923	
29	4.30165 92665 51521	
47	4.30204 93903 76250	
51	4.30213 60369 88719	
63	4.30239 58731 52567	
71	4.30256 90109 36053 99904 21226 276	(306)
89	4.30295 83187 64626	
0101	4.30321 76635 73669	
07	4.30334 72779 24582	
13	4.30347 68536 03883	
17	4.30356 32159 17248	

N	logarithm	references
2		
0123	4.30369 27271 95118	
29	4.30382 21998 62847	
43	4.30412 41527 32909	
47	4.30421 03864 35233	
49	4.30425 34968 66270	
61	4.30451 20696 24235	
73	4.30477 04885 23259	
77	4.30485 65939 97028	
83	4.30498 57202 06672	
0201	4.30537 28686 41297	
19	4.30575 96722 62822	
31	4.30601 73500 84118	
33	4.30606 02815 27600	
49	4.30640 35803 80042	
61	4.30666 08765 50630	
69	4.30683 23226 84375	
87	4.30721 78292 03142	
97	4.30743 18517 19746	
0323	4.30798 78171 59015	
27	4.30807 32871 68030	
33	4.30820 14606 51076	
41	4.30837 22998 06312	
47	4.30850 03850 85033	
53	4.30862 84325 99053	
57	4.30871 37766 39004	

N	logarithm	references
2		
0359	4.30875 64423 70633	
69	4.30896 97081 78249	
89	4.30939 59258 69756	
93	4.30948 11192 36103	
99	4.30960 88779 58902	
0407	4.30977 91644 80480	
11	4.30986 42827 09358	
31	4.31028 96237 96099	
41	4.31050 21382 26795	
43	4.31054 46286 36955	
77	4.31126 63302 88116	
79	4.31130 87460 00808	
83	4.31139 35650 00521	
0507	4.31190 21314 19490	
09	4.31194 44850 84620	
21	4.31219 85203 72528	
33	4.31245 24071 52441	
43	4.31266 38661 50631	
49	4.31279 06921 46442	
51	4.31283 29592 49337	
63	4.31308 64755 17802	
93	4.31371 96194 95093	
99	4.31384 61376 01029	
0611	4.31409 90632 95284	
27	4.31443 60685 84538	

N	logarithm	references
2		
0639	4.31468 86510 46116	
41	4.31473 07338 44783	
63	4.31519 33756 95714	
81	4.31557 15346 14453	
93	4.31582 34577 51156	
0707	4.31611 71834 98905	
17	4.31632 68660 45419	
19	4.31636 87904 08991	
31	4.31662 02516 35936	
43	4.31687 15673 48347	
47	4.31695 53069 45021	
49	4.31699 71706 89212	
53	4.31708 08860 73193	
59	4.31720 64288 99825	
71	4.31745 74057 32373	
73	4.31749 92211 07132	
89	4.31783 35992 43589	
0807	4.31820 94671 71381	
09	4.31825 12102 01200	
49	4.31908 52293 38699	
57	4.31925 18411 40254	
73	4.31958 48731 10106	
79	4.31970 96942 87983	
87	4.31987 60667 39150	
97	4.32008 39427 15693	

N	logarithm	references
2		
0899	4.32012 55059 73635	
0903	4.32020 86205 58244	
21	4.32058 24394 73551	
29	4.32074 84779 87174	
39	4.32095 59369 00980	
47	4.32112 18327 08528	
59	4.32137 05576 60815	
63	4.32145 34343 33345	
81	4.32182 61837 68503	
83	4.32186 75806 30788	
1001	4.32223 99749 31151 96790 24148 334	(117)
11	4.32244 67227 60394	
13	4.32248 80605 18078	
17	4.32257 07242 31276	
19	4.32261 20501 88287	
23	4.32269 46903 06876	
31	4.32285 99233 83261	
59	4.32343 77445 89586	
61	4.32347 89881 30158	
67	4.32360 26952 56489	
89	4.32405 59868 14951	
1101	4.32430 30374 86834	
07	4.32442 65101 41733	
21	4.32471 44765 60668	
39	4.32508 44387 54090	

N	logarithm	references
2		
1143	4.32516 66097 92962	
49	4.32528 98372 07551	
57	4.32545 40860 56255	
63	4.32557 72319 40418	
69	4.32570 03429 15986	
79	4.32590 54503 54342	
87	4.32606 94665 88894	
91	4.32615 14514 83546	
93	4.32619 24381 27772	
1211	4.32656 11439 64193	
21	4.32676 58453 64053	
27	4.32688 86199 07437	
47	4.32729 76178 95855	
69	4.32774 70712 52456	
77	4.32791 03935 81050	
83	4.32803 28450 33525	
1313	4.32864 45849 43907	
17	4.32872 60851 98784	
19	4.32876 68295 91525	
23	4.32884 83069 11196	
41	4.32921 47658 05725	
47	4.32933 68500 87424	
77	4.32994 67572 40238	
79	4.32998 73872 78803	
83	4.33006 86359 54388	

N	logarithm	references
2		
1391	4.33023 10877 19280	
97	4.33035 28866 77329	
1401	4.33043 40670 09712	
07	4.33055 58090 62996	
19	4.33079 91908 36649	
33	4.33108 29639 61029	
67	4.33177 13562 90927	
81	4.33205 44951 08195	
87	4.33217 57838 30423	
91	4.33225 66241 64205	
93	4.33229 70386 88885	
99	4.33241 82597 02485	
1503	4.33249 90549 18178	
17	4.33278 17198 62915	
21	4.33286 24474 95826	
23	4.33290 28056 85791	
29	4.33302 38577 58089	
57	4.33358 83217 23421	
59	4.33362 86125 18691	
63	4.33370 91828 97272	
69	4.33383 00104 45646	
77	4.33399 10615 69507	
87	4.33419 22915 24874	
89	4.33423 25263 29600	
99	4.33443 36444 59481	

(12)

N	logarithm	references
2		
1601	4.33447 38569 11537	
11	4.33467 48633 40148	
13	4.33471 50534 64358	
17	4.33479 54225 56774	
47	4.33539 77171 45592	
49	4.33543 78404 34783	
61	4.33567 85023 56566	
73	4.33591 90309 90712	
83	4.33611 93698 08687	
1701	4.33647 97469 57996	
13	4.33671 98323 64343	
27	4.33699 97643 60528	
37	4.33719 96053 73581	
39	4.33723 95625 43717	
51	4.33747 92283 94032	
57	4.33759 90117 39989	
67	4.33779 85772 62250	
73	4.33791 82725 72673	
87	4.33819 74334 06282	
99	4.33843 65713 82445	
1803	4.33851 62547 88366	
17	4.33879 50316 31806	
21	4.33887 46493 01381	
39	4.33923 27482 98961	
41	4.33927 25188 55940	

N	logarithm	references
2		
1851	4.33947 13170 29284	
59	4.33963 02900 74080	
63	4.33970 97547 79832	
71	4.33986 86405 84651	
81	4.34006 71661 32954	
93	4.34030 52770 62427	
1911	4.34066 21988 55609	
29	4.34101 88275 56044	
37	4.34117 72352 47365	
43	4.34129 60031 10066	
61	4.34165 21119 43532	
77	4.34196 84081 79938	
91	4.34224 49785 47120	
97	4.34236 34548 09172	
2003	4.34248 18987 59516	
13	4.34267 92335 87477	
27	4.34295 53517 95990	
31	4.34303 42104 79198	
37	4.34315 24716 62257	
39	4.34319 18849 01407	
51	4.34342 82892 52123	
63	4.34366 45649 88233	
67	4.34374 32950 10094	
73	4.34386 13632 88639	
79	4.34397 93994 77598	

N	logarithm	references
2		
2091	4.34421 53756 56500	
93	4.34425 46925 56934	
2109	4.34456 90996 88464	
11	4.34460 83845 80567	
23	4.34484 40193 37120	
29	4.34496 17887 89682	
33	4.34504 02840 19556	
47	4.34531 49056 52314	
53	4.34543 25474 99147	
57	4.34551 09576 96950	
59	4.34555 01574 87743	
71	4.34578 52819 59213	
89	4.34613 77301 60444	
93	4.34621 60131 55006	
2229	4.34691 99258 45621	
47	4.34727 14548 09605	
59	4.34750 56494 75903	
71	4.34773 97179 20052	
73	4.34777 87170 65364	
77	4.34785 67048 51325	
79	4.34789 56934 93232	
83	4.34797 36602 78038	
91	4.34812 95518 69214	
2303	4.34836 32843 85186	
07	4.34844 11672 78361	

N	logarithm	references
2		
2343	4.34914 14855 19633	
49	4.34925 80955 12790	
67	4.34960 77377 48074	
69	4.34964 65695 15080	
81	4.34987 94872 31628	
91	4.35007 34899 51687	
97	4.35018 98499 99334	
2409	4.35042 24766 07710	
33	4.35088 73563 43713	
41	4.35104 22057 39445	
47	4.35115 83065 64027	
53	4.35127 43763 59436	
69	4.35158 37442 41734	
81	4.35181 56256 16891	
83	4.35185 42604 78753	
2501	4.35220 18196 59416	
11	4.35239 47879 74109	
31	4.35278 04675 71325	
41	4.35297 31790 05932	
43	4.35301 17110 33453	
49	4.35312 72866 08136	
67	4.35347 38289 03066	
71	4.35355 08007 64121	
73	4.35358 92815 79484	
2613	4.35435 81827 35322	

N	logarithm	references
2		
2619	4.35447 34005 85812	
21	4.35451 17997 44273	
37	4.35481 88708 47721	
39	4.35485 72394 74118	
43	4.35493 39665 59147	
51	4.35508 73800 74904	
69	4.35543 23624 70549	
79	4.35562 39010 12025	
91	4.35585 36358 10542	
97	4.35596 84576 53611	
99	4.35600 67248 56200	
2709	4.35619 80103 07629	
17	4.35635 09780 30569	
21	4.35642 74416 92355	
27	4.35654 21119 48760	
39	4.35677 13616 69600	
41	4.35680 95581 93979	
51	4.35700 04904 40922	
69	4.35734 39570 96534	
77	4.35749 65217 95561	
83	4.35761 09101 58445	
87	4.35768 71523 32334 17438 81176 207	(306)
2807	4.35806 81625 61538 49370 07738 404	(99)
11	4.35814 43245 12175	
17	4.35825 85424 00596	

N	logarithm	references
2		
2853	4.35894 32196 32335	
59	4.35905 72276 34889	
61	4.35909 52236 52578	
71	4.35928 51538 93470	
77	4.35939 90721 80886 64477 40109 957	(316)
2901	4.35985 44467 50358	
07	4.35996 82158 25905	
21	4.36023 35611 57832	
37	4.36053 66145 83294	
43	4.36065 02051 19749	
61	4.36099 07985 78921	
63	4.36102 86258 13672	
73	4.36121 77125 81682	
93	4.36159 56393 18234	
3003	4.36178 44794 29873	
11	4.36193 54924 21146	
17	4.36204 87177 14715	
21	4.36212 41848 47604	
27	4.36223 73609 64099	
29	4.36227 50797 83117	
39	4.36246 36247 55212	
41	4.36250 13239 29012	
53	4.36272 74502 75199	
57	4.36280 27995 67412	
59	4.36284 04693 11725	

N	logarithm	references
2		
3063	4.36291 57989 99595	
71	4.36306 64191 88178	
81	4.36325 46209 94687	
87	4.36336 75029 43486	
99	4.36359 31788 58270	
3117	4.36393 14730 01837	
31	4.36419 44086 06938	
43	4.36441 96553 50235	
59	4.36471 98027 29918	
67	4.36486 97986 66962	
73	4.36498 22616 32262	
89	4.36528 20205 72183	
97	4.36543 18224 90420	
3201	4.36550 67040 77209	
03	4.36554 41400 29469	
09	4.36565 64285 28389	
27	4.36599 31199 34445	
51	4.36644 16361 56833	
69	4.36677 77196 07580	
79	4.36696 43203 15918	
91	4.36718 81353 85627	
93	4.36722 54266 85831	
97	4.36729 99996 81404	
3311	4.36756 09043 72852	
21	4.36774 71689 50207	

N	logarithm	references
2		
3327	4.36785 88893 62906	
33	4.36797 05810 43394	
39	4.36808 22440 06446	
57	4.36841 70607 38562	
69	4.36864 01285 76485	
71	4.36867 72954 12786	
99	4.36919 72974 20315	
3417	4.36953 12559 41311	
31	4.36979 08240 30776	
47	4.37008 72834 35200	
59	4.37030 94952 58699	
73	4.37056 85987 67051	
97	4.37101 24168 83840	
3509	4.37123 41559 76554	
31	4.37164 03838 37884	
37	4.37175 11073 40287	
39	4.37178 80089 02200	
49	4.37197 24696 94093	
57	4.37211 99819 38335	
61	4.37219 37192 75734	
63	4.37223 05832 50114	
67	4.37230 43018 12888	
81	4.37256 22182 85500	
93	4.37278 31677 02350	
99	4.37289 36002 71661	

(13)

N	logarithm	references
2		
3603	4.37296 72063 87155	
09	4.37307 75921 74897	
23	4.37333 50499 54568	
27	4.37340 85812 95595	
29	4.37344 53422 97979	
33	4.37351 88549 69121	
63	4.37406 98037 26075	
69	4.37417 99096 54638	
71	4.37421 66054 28374	
77	4.37432 66741 49560	
87	4.37451 00600 49550	
89	4.37454 67279 38959	
3719	4.37509 63750 95397	
41	4.37549 90080 19384	
43	4.37553 55925 09499	
47	4.37560 87522 45516	
53	4.37571 84687 46791	
61	4.37586 47143 11806	
67	4.37597 43661 76192	
73	4.37608 39903 62361	
89	4.37637 61863 15962	
3801	4.37659 52043 40475	
13	4.37681 41119 68197	
19	4.37692 35244 18029	
27	4.37706 93648 19653	

N	logarithm	references
2		
3831	4.37714 22666 59079	
33	4.37717 87129 90244	
57	4.37761 58305 59780	
69	4.37783 42244 70549	
73	4.37790 69980 42317	
79	4.37801 61355 40438	
87	4.37816 16095 54913	
93	4.37827 06830 96358	
99	4.37837 97292 50740	
3909	4.37856 14120 18576	
11	4.37859 77394 53303	
17	4.37870 67035 28953	
29	4.37892 45496 97582	
57	4.37943 24328 73422	
71	4.37968 61519 06955	
77	4.37979 48432 76982	
81	4.37986 72890 80879	
93	4.38008 45540 11530	
4001	4.38022 93369 38037 39233 13007 319	(33)
07	4.38033 78924 66490	
19	4.38055 49221 54214	
23	4.38062 72412 88789	
29	4.38073 56974 15691	
43	4.38098 86564 32106	
49	4.38109 70223 51799	

N	logarithm	references
2		
4061	4.38131 36731 05942	
71	4.38149 41328 78298	
77	4.38160 23727 59702	
83	4.38171 05856 71035	
91	4.38185 48276 22592	
97	4.38196 29776 55998	
4103	4.38207 11007 64084	
07	4.38214 31678 84250	
09	4.38217 91969 60254	
13	4.38225 12461 46584	
21	4.38239 53086 70409	
33	4.38261 13128 93490	
37	4.38268 32904 33643	
51	4.38293 51179 23578	
69	4.38325 86817 08175	
79	4.38343 83352 56656	
81	4.38347 42570 50051	
97	4.38376 15244 84166	
4203	4.38386 92008 02545	
23	4.38422 79291 77051	
29	4.38433 54899 34284	
39	4.38451 46986 85653	
47	4.38465 80124 62279	
51	4.38472 96516 19834	
81	4.38526 65689 57532	

N	logarithm	references
2		
4317	4.38590 99947 86097	
29	4.38612 42584 00312	
37	4.38626 70421 05014	
59	4.38665 94554 14194	
71	4.38687 33496 84179	
73	4.38690 89884 89542	
79	4.38701 58873 61570	
91	4.38722 96062 00529	
4407	4.38751 44011 49481	
13	4.38762 11511 25087	
19	4.38772 78748 67900	
21	4.38776 34436 21556	
39	4.38808 34313 83648	
43	4.38815 45077 68882	
69	4.38861 62209 51456	
73	4.38868 72102 01240	
81	4.38882 91538 98840	
99	4.38914 83576 97377	
4509	4.38932 55918 17493	
17	4.38946 73270 55369	
27	4.38964 44310 79479	
33	4.38975 06588 37506	
47	4.38999 84226 07333	
51	4.39006 91863 01637	
71	4.39042 28319 23477	

N	logarithm	references
2		
4593	4.39081 15097 86938	
4611	4.39112 92604 17902	
23	4.39134 09650 88904	
31	4.39148 20442 25046	
59	4.39197 54606 09762	
71	4.39218 67532 87063	
77	4.39229 23610 88971	
83	4.39239 79432 16371	
91	4.39253 86794 69688	
97	4.39264 42017 38427	
4709	4.39285 51693 89535	
33	4.39327 67974 94561	
49	4.39355 76556 63294	
63	4.39380 32576 55081	
67	4.39387 34041 49383	
81	4.39411 88276 94570	
93	4.39432 90804 03031	
99	4.39443 41685 98875	
4809	4.39460 92591 03545	
21	4.39481 92745 73398	
41	4.39516 90748 27421	
47	4.39527 39599 86980	
51	4.39534 38693 56829	
59	4.39548 36543 45170	
77	4.39579 80061 63392	

N	logarithm	references
2		
4889	4.39600 74477 05162	
4907	4.39632 14207 55798	
17	4.39649 57521 97567	
19	4.39653 06100 90025	
23	4.39660 03174 82639	
43	4.39694 86867 16338	
53	4.39712 27665 97578	
67	4.39736 63612 65288	
71	4.39743 59346 53543	
77	4.39754 02738 42457	
79	4.39757 50480 02289	
89	4.39774 88770 47959	
5013	4.39816 57831 06361	
31	4.39847 82002 19756	
33	4.39851 28993 63422	
37	4.39858 22893 34715	
57	4.39892 90729 85435	
73	4.39920 63006 71308	
87	4.39944 87298 14231	
97	4.39962 18106 71736	
5111	4.39986 40080 46825	
17	4.39996 77655 88587	
21	4.40003 69235 14113	
27	4.40014 06397 57697	
47	4.40048 61817 91204	

N	logarithm	references
2		
5153	4.40058 97908 13223	
63	4.40076 24176 06936	
69	4.40086 59607 56573	
71	4.40090 04696 54636	
83	4.40110 74654 79457	
89	4.40121 09264 06310	
5219	4.40172 78616 54499	
29	4.40190 00367 60585	
37	4.40203 77277 16252	
43	4.40214 09672 92468	
47	4.40220 97800 44745	
53	4.40231 29787 34000	
61	4.40245 05388 51364	
5301	4.40313 76866 26381	
03	4.40317 20154 92251	
07	4.40324 06650 84475	
09	4.40327 49858 11686	
21	4.40348 08532 37340	
39	4.40378 94715 16188	
43	4.40385 80235 83242	
49	4.40396 08313 99213	
57	4.40409 78706 40488	
67	4.40426 91089 05424	
73	4.40437 18194 65281	
91	4.40467 98054 79065	

N	logarithm	references
2		
5409	4.40498 75732 35026	
11	4.40502 17561 93084	
23	4.40522 67974 59939	
39	4.40550 00353 16872	
47	4.40563 65898 06667	
53	4.40573 89775 04250	
57	4.40580 72225 61456	
63	4.40590 95700 43918	
69	4.40601 18934 12467	
71	4.40604 59958 45300	
5523	4.40693 17204 75127	
37	4.40716 98764 83705	
41	4.40723 78970 76961	
61	4.40757 78403 30906	
77	4.40784 96034 79140	
79	4.40788 35619 18590	
83	4.40795 14708 32673	
89	4.40805 33142 97981	
5601	4.40825 69296 08717	
03	4.40829 08562 14617	
09	4.40839 26201 33360	
21	4.40859 60764 62783	
33	4.40879 94375 22527	
39	4.40890 10823 54143	
43	4.40896 88323 61207	

(14)

N	logarithm	references
2		
5657	4.40920 58741 89573	
67	4.40937 51106 04272	
73	4.40947 66208 06971	
79	4.40957 81072 88638	
93	4.40981 48168 92981	
5703	4.40998 38162 26541	
17	4.41022 03048 65082	
33	4.41049 04200 03448	
41	4.41062 54145 98125	
47	4.41072 66330 14191	
59	4.41092 89991 02691	
63	4.41099 64335 16382	
71	4.41113 12709 39565	
93	4.41150 18581 39224	
99	4.41160 28725 17545	
5801	4.41163 65387 56469	
19	4.41193 94175 24044	
41	4.41230 93160 59834	
47	4.41241 01428 24388	
49	4.41244 37465 44762	
67	4.41274 60630 80841	
73	4.41284 67885 11962	
89	4.41311 52755 07509	
5903	4.41335 00655 48239	
13	4.41351 76950 40016	

N	logarithm	references
2		
5919	4.41361 82416 86993	
31	4.41381 92651 73044	
33	4.41385 27600 42867	
39	4.41395 32291 55415	
43	4.41402 01956 53663	
51	4.41415 40976 80207	
69	4.41445 52263 77721	
81	4.41465 58629 08059	
97	4.41492 32341 77824	
99	4.41495 66440 15667	
6003	4.41502 34559 81785	
17	4.41525 72169 54235	
21	4.41532 39826 99692	
29	4.41545 74834 06035	
41	4.41565 76575 51420	
53	4.41585 77394 75443	
83	4.41635 75413 74134	
99	4.41662 38673 84184	
6107	4.41675 69691 68746	
11	4.41682 35047 66854	
13	4.41685 67687 43732	
19	4.41695 65453 90342	
41	4.41732 21970 99729	
53	4.41752 15138 04296	
61	4.41765 43408 05952	

N	logarithm	references
2		
6171	4.41782 03174 50143	
77	4.41791 98729 97741	
83	4.41801 94057 28941	
89	4.41811 89156 54200	
6203	4.41835 10168 48709	
09	4.41845 04508 29584	
27	4.41874 86162 49574	
37	4.41891 41752 94696	
49	4.41911 27628 75142	
51	4.41914 58519 78541	
61	4.41931 12596 89979	
63	4.41934 43336 73843	
67	4.41941 04740 86216	
93	4.41984 01414 16905	
97	4.41990 62063 69594	
6309	4.42010 43409 50183	
17	4.42023 63804 69888	
21	4.42030 23851 78690	
39	4.42059 92822 91440	
47	4.42073 11714 41572	
57	4.42089 59765 74812	
71	4.42112 65987 44799	
87	4.42139 00170 67081	
93	4.42148 87577 60626	
99	4.42158 74760 09703	

N	logarithm	references
2		
6407	4.42171 90654 45820 19707 60141 268	(319)
17	4.42188 34961 92106	
23	4.42198 21247 65256	
31	4.42211 35946 96832	
37	4.42221 21710 34224	
49	4.42240 92566 09698	
59	4.42257 34262 95597	
79	4.42290 15796 08956	
89	4.42306 55633 30095	
97	4.42319 67057 40604	
6501	4.42326 22620 98614	
13	4.42345 88718 19513	
39	4.42388 45544 49140	
57	4.42417 90135 78782	
61	4.42424 44218 37033	
73	4.42444 05875 26477	
91	4.42473 46700 24896	
97	4.42483 26532 88131	
6627	4.42532 22382 81250	
33	4.42542 00890 84946	
41	4.42555 05225 37713	
47	4.42564 83219 26034	
69	4.42600 67313 77011	
81	4.42620 21028 43580	
83	4.42623 46562 11552	

N	logarithm	references
2		
6687	4.42629 97556 28110	
93	4.42639 73864 59972	
99	4.42649 49953 49033 58188 98365 987	(320)
6701	4.42652 75267 70914	
11	4.42669 01473 38194	
13	4.42672 26641 45779	
17	4.42678 76904 57995	
23	4.42688 52116 74401	
29	4.42698 27109 97247	
31	4.42701 52059 07992	
37	4.42711 26760 54710	
59	4.42746 98795 51812	
77	4.42776 19185 89799	
83	4.42785 92213 12066	
6801	4.42815 09987 44445 38466 63481 194	(119)
13	4.42834 54081 84885	
21	4.42847 49661 47409	
33	4.42866 92306 52189	
39	4.42876 63303 28082	
49	4.42892 81148 93320	
61	4.42912 21768 50853	
63	4.42915 45120 81447	
79	4.42941 31072 92483	
81	4.42944 54208 70021	
91	4.42960 69527 03284	

N	logarithm	references
2		
6893	4.42963 92518 61554	
6903	4.42980 07116 30647	
21	4.43009 11880 33949	
27	4.43018 79703 43495	
47	4.43051 04223 62542	
51	4.43057 48840 46865	
53	4.43060 71113 01399	
59	4.43070 37787 18752	
81	4.43105 80419 42025	
87	4.43115 46090 52244	
93	4.43125 11546 95155	
7011	4.43154 06629 15425	
17	4.43163 71227 84461	
31	4.43186 21125 29970	
43	4.43205 48681 56274	
59	4.43231 17426 49381	
61	4.43234 38412 80726	
67	4.43244 01229 42790	
73	4.43253 63832 64256	
77	4.43260 05449 60683	
91	4.43282 50362 79618	
7103	4.43301 73650 93436	
07	4.43308 14557 75257	
09	4.43311 34975 69716	
27	4.43340 17673 89071	

N	logarithm	references
2		
7143	4.43365 78466 92988	
79	4.43423 34736 44771	
91	4.43442 51798 74952	
97	4.43452 10012 65773	
7211	4.43474 45023 27412	
39	4.43519 11596 85177	
41	4.43522 30462 11029	
53	4.43541 43162 17528	
59	4.43550 99196 40699	
71	4.43570 10633 73212	
77	4.43579 66037 01067	
81	4.43586 02855 78362	
83	4.43589 21230 15654	
99	4.43614 67385 26609	
7329	4.43662 37406 41527	
37	4.43675 08527 72652	
61	4.43713 19660 94330	
67	4.43722 71921 90729	
97	4.43770 30097 26350	
7407	4.43786 14997 95222	
09	4.43789 31908 69513	
27	4.43817 83065 21823	
31	4.43824 16401 44292	
37	4.43833 66232 63844	
49	4.43852 65272 05319	

N	logarithm	references
2		
7457	4.43865 30837 15711	
79	4.43900 09240 79503	
81	4.43903 25321 20413	
87	4.43912 73424 42846	
7509	4.43947 48033 16783	
27	4.43975 88828 63007	
29	4.43979 04357 89634	
39	4.43994 81660 45564	
41	4.43997 97052 23639	
51	4.44013 73667 66757	
81	4.44061 00082 72345	
83	4.44064 14994 24697	
7611	4.44108 21359 62599	
17	4.44117 64999 41076	
31	4.44139 66028 54368	
47	4.44164 80125 25648	
53	4.44174 22536 43248	
73	4.44205 62430 88226	
89	4.44230 72712 99053	
91	4.44233 86396 25676	
97	4.44243 27310 13760	
7701	4.44249 54472 82602	
33	4.44299 68516 54092	
37	4.44305 94865 17284	
39	4.44309 08005 61706	

(15)

N	logarithm	references
2		
7743	4.44315 34218 77831	
49	4.44324 73369 25102	
51	4.44327 86374 28315	
63	4.44346 63930 88654	
67	4.44352 89602 75062	
73	4.44362 27941 57005	
79	4.44371 66077 69532	
91	4.44390 41742 21353	
93	4.44393 54274 22424	
99	4.44402 91735 33431	
7803	4.44409 16597 00497	
09	4.44418 53720 97157	
17	4.44431 02905 12257	
23	4.44440 39557 49551	
27	4.44446 63880 20193	
47	4.44477 84148 19478	
51	4.44484 07932 86590	
83	4.44533 94987 42794	
93	4.44549 52268 28908	
7901	4.44561 97691 05104	
17	4.44586 87465 64016	
19	4.44589 98587 12600	
41	4.44624 19453 25413	
43	4.44627 30307 51087	
47	4.44633 51949 28242	

N	logarithm	references
2		
7953	4.44642 84245 13266	
61	4.44655 26995 02676	
67	4.44664 58824 12897	
83	4.44689 42724 71873	
97	4.44711 14972 97647	
8001	4.44717 35415 82463	
19	4.44745 26312 26993	
27	4.44757 66135 22922	
31	4.44763 85914 00498	
51	4.44794 83481 85430	
57	4.44804 12321 55678	
69	4.44822 69405 21222	
81	4.44841 25695 10080	
87	4.44850 53542 59451	
97	4.44865 99514 70930	
99	4.44869 08643 10427	
8109	4.44884 53955 11141	
11	4.44887 62951 54121	
23	4.44906 16468 58141	
51	4.44949 38267 81260	
63	4.44967 89151 73551	
81	4.44995 63999 43542	
83	4.44998 72206 43428	
8201	4.45026 45085 59851	
11	4.45041 84809 36811	

N	logarithm	references
2		
8219	4.45054 16195 46717	
29	4.45069 54937 27006	
77	4.45143 33318 37844	
79	4.45146 40479 05606	
83	4.45152 54735 24591	
89	4.45161 75956 66328	
97	4.45174 03947 99625	
8307	4.45189 38449 04360	
09	4.45192 45284 20122	
19	4.45207 79134 89846	
49	4.45253 77439 29398	
51	4.45256 83819 88099	
87	4.45311 94977 64002	
93	4.45321 12824 38223	
8403	4.45336 42138 01837	
09	4.45345 59467 77303	
11	4.45348 65201 30495	
29	4.45376 15834 99093	
33	4.45382 26850 40737	
39	4.45391 43212 37850	
47	4.45403 64727 64697	
63	4.45428 06727 96099	
77	4.45449 42352 43207	
93	4.45473 81780 86569	
99	4.45482 96213 38290	

N	logarithm	references
2		
8513	4.45504 29140 79076	
17	4.45510 38356 26699	
37	4.45540 83152 42286	
41	4.45546 91855 57660	
47	4.45556 04750 37095	
49	4.45559 09005 99802	
59	4.45574 29964 48490	
71	4.45592 54411 83637	
73	4.45595 58411 89383	
79	4.45604 70284 40957	
91	4.45622 93455 25420	
97	4.45632 04753 74374	
8603	4.45641 15861 05177	
07	4.45647 23159 75146	
19	4.45665 44546 48449	
21	4.45668 48036 68860	
27	4.45677 58380 07211	
31	4.45683 65169 66673	
43	4.45701 85029 93809	
49	4.45710 94674 18194	
57	4.45723 07236 87269	
61	4.45729 13391 28507	
63	4.45732 16436 76834	
69	4.45741 25446 36191	
87	4.45768 51334 12637	

N	logarithm	references
2		
8697	4.45783 64977 25441	
8703	4.45792 72909 97250	
11	4.45804 83191 74270	
23	4.45822 97982 23568	
29	4.45832 05093 18078	
51	4.45865 29546 57967	
53	4.45868 31643 46481	
59	4.45877 37808 05685	
71	4.45895 49570 21865	
89	4.45922 65797 08769	
93	4.45928 69172 42387	
8807	4.45949 80326 19692	
13	4.45958 84792 32008	
17	4.45964 87665 10523	
37	4.45995 00774 33841	
43	4.46004 04299 61608	
59	4.46028 12781 77911	
67	4.46040 16522 16558	
71	4.46046 18267 26599	
79	4.46058 21507 39671	
8901	4.46091 28699 87286	
09	4.46103 30691 18142	
21	4.46121 33054 61135	
27	4.46130 33955 90466	
33	4.46139 34670 35359	

N	logarithm	references
2		
8949	4.46163 35662 67847	
61	4.46181 35536 22620	
79	4.46208 33948 69625	
9009	4.46253 27580 35090	
17	4.46265 25097 28374	
21	4.46271 23731 94736	
23	4.46274 23018 33842	
27	4.46280 21529 25328	
33	4.46289 19140 99998	
59	4.46328 06649 53247	
63	4.46334 04419 02779	
77	4.46354 95964 56070	
9101	4.46390 79129 38484	
23	4.46423 61102 13029	
29	4.46432 55755 32697	
31	4.46435 53932 10834	
37	4.46444 48339 63928	
47	4.46459 38609 64877	
53	4.46468 32526 25275	
67	4.46489 17616 39796	
73	4.46498 10920 10061	
79	4.46507 04040 09670	
91	4.46524 89729 27137	
9201	4.46539 77242 92443	
07	4.46548 69506 62139	

N	logarithm	references
2		
9209	4.46551 66887 12130	
21	4.46569 50742 62570	
	(empty line in Sang's manuscript)	
31	4.46584 36729 37086	
43	4.46602 19242 57536	
51	4.46614 07178 38994	
69	4.46640 78846 51051	
87	4.46667 48872 09985	
97	4.46682 31510 65687	
9303	4.46691 20850 89596	
11	4.46703 06354 65847	
27	4.46726 76391 79579	
33	4.46735 64822 37898	
39	4.46744 53071 25426	
47	4.46756 37120 55963	
63	4.46780 04251 16173	
83	4.46809 61351 21063	
87	4.46815 52529 67934	
89	4.46818 48088 73887	
99	4.46833 25582 39775	
9401	4.46836 21020 82093	
11	4.46850 97911 54421	
23	4.46868 69517 70905	
29	4.46877 55049 85764	
37	4.46889 35478 58615	

N	logarithm	references
2		
9443	4.46898 20589 62570	
53	4.46912 95373 94408	
73	4.46942 43441 00161	
83	4.46957 16724 41999	
9501	4.46983 67375 75490	
27	4.47021 93240 51729	
31	4.47027 81536 06752	
37	4.47036 63830 00007	
67	4.47080 72613 01848	
69	4.47083 66372 81425	
73	4.47089 53832 80216	
81	4.47101 28514 43871	
87	4.47110 09317 20383	
99	4.47127 70387 00218	
9611	4.47145 30742 97387	
29	4.47171 69939 77159	
33	4.47177 56210 20804	
41	4.47189 28513 70580	
63	4.47221 50717 61791	
69	4.47230 29085 74988	
71	4.47233 21835 65353	
83	4.47250 77920 78809	
9717	4.47300 49642 67271	
23	4.47309 26414 84642	
41	4.47335 55669 82860	

(16)

N	logarithm	references
2		
9753	4.47353 07622 58132	
59	4.47361 83334 00095	
61	4.47364 75198 57223	
89	4.47405 59244 37892	
9803	4.47425 99827 96682	
19	4.47449 30750 06848	
33	4.47469 69281 16829	
37	4.47475 51542 91798	
51	4.47495 88844 50562	
63	4.47513 34342 66451	
67	4.47519 16019 52043	
73	4.47527 88388 75384	
79	4.47536 60582 78924	
81	4.47539 51275 21365	
9917	4.47591 80414 39468	
21	4.47597 61041 39766	
27	4.47606 31836 37832	
47	4.47635 33225 95013	
59	4.47652 73129 75027	
83	4.47687 50847 58506	
89	4.47696 19842 08253	
$\overline{0011}$	4.47728 04668 42588	
13	4.47730 94082 31503	
29	4.47754 08699 37473	
47	4.47780 11169 88149	

N	logarithm	references
3		
0059	4.47797 45284 23017	
71	4.47814 78706 43273	
89	4.47840 77543 17061	
91	4.47843 66206 83433	
97	4.47852 32082 72323	
0103	4.47860 97786 01228	
09	4.47869 63316 77028	
13	4.47875 40241 45899	
19	4.47884 05484 81802	
33	4.47904 23715 86630	
37	4.47910 00181 08288	
39	4.47912 88384 99957	
61	4.47944 57366 43433	
69	4.47956 09150 24855	
81	4.47973 36253 43050	
87	4.47981 99547 52671	
97	4.47996 37989 78252	
0203	4.48005 00826 50437	
11	4.48016 51008 87121	
23	4.48033 75711 47284	
41	4.48059 61481 81724	
53	4.48076 84473 80031	
59	4.48085 45713 52135	
69	4.48099 80733 63057	
71	4.48102 67680 76110	

N	logarithm	references
3		
0293	4.48134 22848 52483	
0307	4.48154 29489 73103	
13	4.48162 89195 07578	
19	4.48171 48730 27169	
23	4.48177 21659 24176	
41	4.48202 98904 69332	
47	4.48211 57646 75103	
67	4.48240 18894 55293	
89	4.48271 64091 41232	
91	4.48274 49905 48410	
0403	4.48291 64395 02271	
27	4.48325 91344 91800	
31	4.48331 62240 42232	
49	4.48357 30341 90131	
67	4.48382 96925 68941	
69	4.48385 82008 05914	
91	4.48417 16679 65254	
93	4.48420 01537 63631	
97	4.48425 71197 55765	
0509	4.48442 79729 12833	
17	4.48454 18376 87687	
29	4.48471 25788 94317	
39	4.48485 48119 74092	
53	4.48505 38600 60685	
57	4.48511 07141 90291	

N	logarithm	references
3		
0559	4.48513 91384 64265	
77	4.48539 48732 49012	
93	4.48562 20667 05573	
0631	4.48616 11753 04538	
37	4.48624 62365 73055	
43	4.48633 12811 84666	
49	4.48641 63091 45892	
61	4.48658 63151 43263	
71	4.48672 79359 89070	
77	4.48681 28863 34630	
89	4.48698 27371 91759	
97	4.48709 59342 03289	
0703	4.48718 08126 03931	
07	4.48723 73889 89864	
13	4.48732 22397 51821	
27	4.48752 01604 17572	
57	4.48794 39726 44853	
63	4.48802 86854 82944	
73	4.48816 98368 36859	
81	4.48828 27248 98554	
0803	4.48859 30158 51019	
09	4.48867 76021 94578	
17	4.48879 03583 64855	
29	4.48895 94377 48713	
39	4.48910 02869 68960	

N	logarithm	references
3		
0841	4.48912 84513 32258	
51	4.48926 92457 58021	
53	4.48929 73991 66685	
59	4.48938 18484 43961	
69	4.48952 25607 57887	
71	4.48955 06977 50570	
81	4.48969 13553 76460	
93	4.48986 00844 16134	
0911	4.49011 30551 26615	
31	4.49039 39609 81564	
37	4.49047 81973 20207	
41	4.49053 43458 03676	
49	4.49064 66209 97555	
71	4.49095 52282 00523	
77	4.49103 93557 55878	
83	4.49112 34670 17969	
1013	4.49154 37791 50172	
19	4.49162 77927 85056	
33	4.49182 37614 19421	
39	4.49190 77209 14831	
51	4.49207 55912 27207	
63	4.49224 33966 76789	
69	4.49232 72750 93693	
79	4.49246 70364 65145	
81	4.49249 49833 43012	

N	logarithm	references
3		
1091	4.49263 46907 62960	
1121	4.49305 35435 71646	
23	4.49308 14527 34428	
39	4.49330 46614 93010	
47	4.49341 62228 67134	
51	4.49347 19928 09347	
53	4.49349 98750 95046	
59	4.49358 35112 13273	
77	4.49383 43229 71856	
81	4.49389 00392 53007	
83	4.49391 78947 13340	
89	4.49400 14503 76120	
93	4.49405 71452 21748	
1219	4.49441 89877 25840	
23	4.49447 46290 54753	
31	4.49458 58903 31028	
37	4.49466 93175 86564	
47	4.49480 83274 08474	
49	4.49483 61240 34310	
53	4.49489 17119 49256	
59	4.49497 50804 83279	
67	4.49508 62136 39860	
71	4.49514 17695 55622	
77	4.49522 50901 06221	
1307	4.49564 14532 48718	

N	logarithm	references
3		
1319	4.49580 78868 01767	
21	4.49583 56195 27313	
27	4.49591 88070 79969	
33	4.49600 19787 01398	
37	4.49605 74176 01349	
57	4.49633 45059 96816	
79	4.49663 90991 80747	
87	4.49674 98073 94558	
91	4.49680 51509 20314	
93	4.49683 28200 38691	
97	4.49688 81529 87567	
1469	4.49788 29424 24431	
77	4.49799 33340 57702	
81	4.49804 85193 53612	
89	4.49815 88689 12892	
1511	4.49846 21857 06233	
13	4.49848 97494 58584	
17	4.49854 48717 15603	
31	4.49873 77445 37789	
41	4.49887 54584 15751	
43	4.49890 29959 51865	
47	4.49895 80657 86385	
67	4.49923 33102 62375	
73	4.49931 58496 00330	
83	4.49945 33803 13337	

N	logarithm	references
3		
1601	4.49970 08258 97211	
07	4.49978 32764 38258	
27	4.50005 79985 79122	
43	4.50027 76512 37841	
49	4.50035 99923 52017	
57	4.50046 97562 25069	
63	4.50055 20609 28140	
67	4.50060 69220 65987	
87	4.50088 11238 50455	
99	4.50104 55618 60271	
1721	4.50134 68699 32965	
23	4.50137 42512 12963	
27	4.50142 90085 94521	
29	4.50145 63846 96516	
41	4.50162 06050 79214	
51	4.50175 74079 78948	
69	4.50200 35446 56640	
71	4.50203 08845 67376	
93	4.50233 15100 46685	
99	4.50241 34627 10515	
1817	4.50265 92279 54569	
47	4.50306 85278 86131	
49	4.50309 58008 37779	
59	4.50323 21399 11512	
73	4.50342 29427 37234	

(17)

N	logarithm	references
3		
1883	4.50355 91791 65323	
91	4.50366 81375 45649	
1907	4.50388 59723 32199	
57	4.50456 60026 63273	
63	4.50464 75347 94033	
73	4.50478 33876 73614	
81	4.50489 20393 88075	
91	4.50502 78158 16963	
2003	4.50519 06915 19183	
09	4.50527 21064 69475	
27	4.50551 62597 85739	
29	4.50554 33794 61151	
51	4.50584 15841 73300	
57	4.50592 28772 06901	
59	4.50594 99715 03616	
63	4.50600 41550 26584	
69	4.50608 54176 38041 83797 54097 736	(49)
77	4.50619 37441 39250	
83	4.50627 49712 86975	
89	4.50635 61832 45430	
99	4.50649 15027 71017	
2117	4.50673 49717 15797	
19	4.50676 20153 97349	
41	4.50705 93848 02116	
43	4.50708 64082 90514	

N	logarithm	references
3		
2159	4.50730 25356 84805	
73	4.50749 15589 65369	
83	4.50762 65252 42142	
89	4.50770 74848 79840	
91	4.50773 44680 72263	
2203	4.50789 63320 29873	
13	4.50803 11725 92898	
33	4.50830 07281 87253	
37	4.50835 46192 35178	
51	4.50854 31852 58071	
57	4.50862 39742 11346	
61	4.50867 78251 65493	
97	4.50916 21835 08970	
99	4.50918 90764 73367	
2303	4.50924 28574 06770	
09	4.50932 35163 21488	
21	4.50948 47892 23940	
23	4.50951 16622 19549	
27	4.50956 54032 22792	
41	4.50975 34443 81994	
53	4.50991 45577 41583	
59	4.50999 50920 13399	
63	4.51004 87732 32454	
69	4.51012 92826 21902	
71	4.51015 61157 68769	

N	logarithm	references
3		
2377	4.51023 66052 63390	
81	4.51029 02566 40203	
2401	4.51055 84141 50438	
11	4.51069 24308 40357	
13	4.51071 92292 16393	
23	4.51085 31962 98059	
29	4.51093 35567 15590	
41	4.51109 42329 55525	
43	4.51112 10065 50374	
67	4.51144 21610 11648	
79	4.51160 26492 27770	
91	4.51176 30781 59342	
97	4.51184 32704 07105	
2503	4.51192 34478 50146	
07	4.51197 68912 56693	
31	4.51229 74136 60174	
33	4.51232 41131 85689	
37	4.51237 75073 12931	
61	4.51269 77342 94955	
63	4.51272 44092 21682	
69	4.51280 44241 72821	
73	4.51285 77592 84724	
79	4.51293 77496 73317	
87	4.51304 43806 11925	
2603	4.51325 75639 79005	

N	logarithm	references
3		
2609	4.51333 74807 70356	
11	4.51336 41164 33161	
21	4.51349 72702 48867	
33	4.51365 70009 57837	
47	4.51384 32792 31117	
53	4.51392 30883 24494	
87	4.51437 50630 32711	
93	4.51445 47744 70421	
2707	4.51464 07109 48693	
13	4.51472 03736 48135	
17	4.51477 34739 97509	
19	4.51480 00217 37715	
49	4.51519 80432 25130	
71	4.51548 96939 87064	
79	4.51559 57002 68452	
83	4.51564 86937 07632	
89	4.51572 81717 43949	
97	4.51583 41198 38739	
2801	4.51588 70841 95267	
03	4.51591 35639 51504	
31	4.51628 41111 13981	
33	4.51631 05666 74533	
39	4.51638 99236 88137	
43	4.51644 28203 09121	
69	4.51678 64913 92598	

N	logarithm	references
3		
2887	4.51702 42583 14842	
2909	4.51731 46856 64770	
11	4.51734 10785 22992	
17	4.51742 02474 75372	
33	4.51763 12941 52583	
39	4.51771 04102 23103	
41	4.51773 67790 44113	
57	4.51794 76719 95249	
69	4.51810 57745 29618	
71	4.51813 21193 57161	
83	4.51829 01547 70944	
87	4.51834 28204 65343	
93	4.51842 18070 33958	
99	4.51850 07792 39637 30800 42823 923	(110)
3013	4.51868 49918 93028	
23	4.51881 65245 37411	
29	4.51889 54250 06695	
37	4.51900 06033 39641	
49	4.51915 83230 93904	
53	4.51921 08836 19447	
71	4.51944 73272 97003	
73	4.51947 35908 72356	
83	4.51960 48849 30404	
91	4.51970 98916 05901	
3107	4.51991 98288 19888	

N	logarithm	references
3		
3113	4.51999 85291 18847	
19	4.52007 72151 58784	
49	4.52047 04316 53839	
51	4.52049 66334 32544	
61	4.52062 76186 19296	
79	4.52086 32924 47035	
81	4.52088 94705 35163	
91	4.52102 03373 11873	
99	4.52112 50023 47933	
3203	4.52117 73254 08375	
11	4.52128 19526 21674	
23	4.52143 88461 95432	
47	4.52175 24634 06764	
87	4.52227 46560 11119	
89	4.52230 07491 66733	
3301	4.52245 72751 86833	
11	4.52258 76704 56504	
17	4.52266 58888 30115	
29	4.52282 22833 27584	
31	4.52284 83436 02533	
43	4.52300 46724 21536	
47	4.52305 67695 25441	
49	4.52308 28157 34031	
53	4.52313 49034 65424	
59	4.52321 30233 50856	

N	logarithm	references
3		
3377	4.52344 72987 30376	
91	4.52362 94255 82633	
3403	4.52378 54735 46190	
09	4.52386 34765 06689	
13	4.52391 54706 98113	
27	4.52409 74013 63450	
57	4.52448 69963 43740	
61	4.52453 89159 44734	
69	4.52464 27365 29577	
79	4.52477 24773 68776	
87	4.52487 62421 41101	
93	4.52495 40494 53683	
3503	4.52508 36973 38670	
21	4.52531 69660 44274	
29	4.52542 06008 20462	
33	4.52547 24089 36226	
47	4.52565 36886 86820	
63	4.52586 07729 31854	
69	4.52593 84040 73436	
77	4.52604 18906 80879	
81	4.52609 36247 38762	
87	4.52617 12142 72420	
89	4.52619 70743 70194	
99	4.52632 63517 66488	
3601	4.52635 22026 28514	

N	logarithm	references
3		
3613	4.52650 72754 95423	
17	4.52655 89541 48693	
19	4.52658 47911 69457	
23	4.52663 64606 00160	
29	4.52671 39532 21892	
37	4.52681 72552 13138	
41	4.52686 88969 95881	
47	4.52694 63481 57999	
79	4.52735 91879 06905	
3703	4.52766 85603 80458	
13	4.52779 74005 62340	
21	4.52790 04451 94766	
39	4.52813 22062 63838	
49	4.52826 09089 91754	
51	4.52828 66449 61060	
57	4.52836 38437 19674	
67	4.52849 24778 30532	
69	4.52851 82000 81304	
73	4.52856 96400 12892	
91	4.52880 10443 36472	
97	4.52887 81517 19388	
3809	4.52903 23254 26976	
11	4.52905 80157 24641	
27	4.52926 34834 15586	
29	4.52928 91600 43351	

(18)

N	logarithm	references
3		
3851	4.52957 15028 01578	
57	4.52964 84735 25813	
63	4.52972 54306 10817	
71	4.52982 80188 49261	
89	4.53005 87538 21461	
93	4.53011 00116 16440	
3911	4.53034 05968 57956	
23	4.53049 42523 65142	
31	4.53059 66591 75980	
37	4.53067 34484 40382	
41	4.53072 46337 41352	
61	4.53098 04697 95938	
67	4.53105 71912 33289	
97	4.53144 05952 50219	
4019	4.53172 15432 31137	
31	4.53187 47110 14733	
33	4.53190 02337 27593	
39	4.53197 67928 67861	
57	4.53220 63893 45080	
61	4.53225 73943 04991	
4123	4.53304 72061 46455	
27	4.53309 81124 59410	
29	4.53312 35633 78422	
41	4.53327 62375 78994	
47	4.53335 25545 57032	

N	logarithm	references
3		
4157	4.53347 97197 25984	
59	4.53350 51482 92178	
71	4.53365 76884 30812	
83	4.53381 01750 10570	
4211	4.53416 57689 56607	
13	4.53419 11573 86517	
17	4.53424 19297 94221	
31	4.53441 95864 92194	
53	4.53469 86145 55115	
59	4.53477 46820 14774	
61	4.53480 00348 74203	
67	4.53487 60845 73540	
73	4.53495 21209 58077	
83	4.53507 88186 89853	
97	4.53525 61334 41416	
4301	4.53530 67815 04905	
03	4.53533 21033 21827	
13	4.53545 86902 65099	
19	4.53553 46247 24186	
27	4.53563 58500 21245	
37	4.53576 23484 73119	
51	4.53593 93844 27896	
61	4.53606 57945 12006	
67	4.53614 16229 05035	
69	4.53616 68960 94166	

N	logarithm	references
3		
4381	4.53631 85043 51206	
4403	4.53659 63154 38892	
21	4.53682 34833 12090	
29	4.53692 44086 82340	
39	4.53705 05324 21945	
57	4.53727 74628 92571	
69	4.53742 86840 23508	
71	4.53745 38824 26875	
83	4.53760 50421 51777	
87	4.53765 54170 37367	
99	4.53780 65066 44980	
4501	4.53783 16831 36692	
11	4.53795 75437 07300	
13	4.53798 27114 45016	
19	4.53805 82059 08395	
37	4.53828 46105 90140	
43	4.53836 00525 96451	
49	4.53843 54814 99883	
83	4.53886 26646 73384	
89	4.53893 80063 40474	
91	4.53896 31173 25269	
4603	4.53911 37527 51320	
07	4.53916 39529 51567	
13	4.53923 92423 73640	
31	4.53946 50323 58341	

N	logarithm	references
3		
4649	4.53969 07050 15678	
51	4.53971 57725 18248	
67	4.53991 62604 67521	
73	4.53999 14195 93507	
79	4.54006 65657 14684	
87	4.54016 67403 20993	
93	4.54024 18561 15110	
4703	4.54036 70202 41258	
21	4.54059 22248 05946	
29	4.54069 22782 50743	
39	4.54081 73126 50727	
47	4.54091 73142 58837	
57	4.54104 22838 96527	
59	4.54106 72735 09394	
63	4.54111 72484 21783	
81	4.54134 20643 90057	
4807	4.54166 65932 47185	
19	4.54181 62940 43854	
41	4.54209 06115 55181	
43	4.54211 55409 21006	
47	4.54216 53953 60079	
49	4.54219 03204 33657	
71	4.54246 44018 71379	
77	4.54253 91213 44277	
83	4.54261 38279 64055	

N	logarithm	references
3		
4897	4.54278 80934 50676	
4913	4.54298 71684 20799	
19	4.54306 17980 14619	
39	4.54331 04707 47173	
49	4.54343 47537 38493	
61	4.54358 38463 95738	
63	4.54360 86901 96552	
81	4.54383 22204 73540	
5023	4.54435 33441 35860	
27	4.54440 29423 63683	
51	4.54470 04128 38674	
53	4.54472 51928 50201	
59	4.54479 95244 02511	
69	4.54492 33820 58467	
81	4.54507 19646 33911	
83	4.54509 67234 55074	
89	4.54517 09914 50792	
99	4.54529 47432 27404	
5107	4.54539 37192 65642	
11	4.54544 31988 27278	
17	4.54551 74076 01492	
29	4.54566 57871 20142	
41	4.54581 41159 61283	
49	4.54591 29737 18296	
53	4.54596 23941 59521	

N	logarithm	references
3		
5159	4.54603 65142 78356	
71	4.54618 47165 77045	
5201	4.54655 50012 14298	
21	4.54680 16823 61428	
27	4.54687 56593 91229	
51	4.54717 14415 63497	
57	4.54724 53556 41268	
67	4.54736 85178 22883	
79	4.54751 62663 51024	
81	4.54754 08862 19619	
91	4.54766 39646 31683	
5311	4.54791 00168 64493	
17	4.54798 38053 59075	
23	4.54805 75813 18806	
27	4.54810 67583 30256	
39	4.54825 42559 62298	
53	4.54842 62732 43635	
63	4.54854 91010 29369	
81	4.54877 01035 41043	
93	4.54891 73760 94037	
5401	4.54901 55300 58215	
07	4.54908 91309 76124	
19	4.54923 62954 02541	
23	4.54928 53391 31670	
37	4.54945 69485 82015	

N	logarithm	references
3		
5447	4.54957 94852 57368	
49	4.54960 39884 44121	
61	4.54975 09785 39527	
91	4.55011 82362 69640	
5507	4.55031 39801 44907	
09	4.55033 84419 27154	
21	4.55048 51836 93518	
27	4.55055 85359 87675	
31	4.55060 74306 35130	
33	4.55063 18758 94728	
37	4.55068 07622 86439	
43	4.55075 40815 57616	
69	4.55107 16554 41985	
73	4.55112 04923 57715	
91	4.55134 01905 43342	
93	4.55136 45945 93804	
97	4.55141 33985 81146	
5603	4.55148 65942 80516	
17	4.55165 73362 86272	
71	4.55231 52845 10609	
77	4.55238 83283 77223	
5729	4.55302 08611 35005	
31	4.55304 51709 29688	
47	4.55323 96003 15695	
53	4.55331 24889 00242	

N	logarithm	references
3		
5759	4.55338 53652 53792	
71	4.55353 10812 84317	
97	4.55384 66317 26588	
5801	4.55389 51576 05228	
03	4.55391 94185 11435	
09	4.55399 21930 99424	
31	4.55425 89289 70507	
37	4.55433 16466 93829	
39	4.55435 58832 29462	
51	4.55450 12740 46355	
63	4.55464 66162 06365	
69	4.55471 92690 50214	
79	4.55484 03301 20827	
97	4.55505 81550 43869	
99	4.55508 23510 70501	
5911	4.55522 74989 28218	
23	4.55537 25982 91509	
33	4.55549 34774 06602	
51	4.55571 09750 64986	
63	4.55585 59130 13959	
69	4.55592 83638 53571	
77	4.55602 49461 75577	
83	4.55609 73688 24200	
93	4.55621 80464 06922	
99	4.55629 04368 64123 85502 80259 063	(43)

(19)

N	logarithm	references
3		
6007	4.55638 69387 07568	
11	4.55643 51815 89331	
13	4.55645 93010 20744	
17	4.55650 75358 65375	
37	4.55674 86297 63316	
61	4.55703 77658 82228	
67	4.55711 00198 44557	
73	4.55718 22617 87929	
83	4.55730 26383 28947	
97	4.55747 11094 51776	
6107	4.55759 14059 68501	
09	4.55761 54612 73808	
31	4.55787 99817 30542	
37	4.55795 20957 20065	
51	4.55812 03151 43003	
61	4.55824 04319 93504	
87	4.55855 25804 15453	
91	4.55860 05833 42568	
6209	4.55881 65308 79456	
17	4.55891 24731 06539	
29	4.55905 63467 18070	
41	4.55920 01726 82758	
51	4.55931 99912 79199	
63	4.55946 37299 73255	
69	4.55953 55814 84240	

N	logarithm	references
3		
6277	4.55963 13650 11086	
93	4.55982 28687 12975	
99	4.55989 46608 36001	
6307	4.55999 03652 09450	
13	4.56006 21296 51679	
19	4.56013 38822 37243	
41	4.56039 68736 73903	
43	4.56042 07740 91162	
53	4.56054 02564 51853	
73	4.56077 91226 03079	
83	4.56089 85064 29743	
89	4.56097 01209 76474	
6433	4.56149 49337 94829	
51	4.56170 94472 91157	
57	4.56178 09282 50648	
67	4.56190 00370 44633	
69	4.56192 38548 83945	
73	4.56197 14866 44230	
79	4.56204 29244 90959	
93	4.56220 95671 16109	
97	4.56225 71675 52590	
6523	4.56256 64432 85449	
27	4.56261 40046 25061	
29	4.56263 77833 41773	
41	4.56278 04283 07687	

N	logarithm	references
3		
6551	4.56289 92633 33302	
59	4.56299 43079 47421	
63	4.56304 18224 55485	
71	4.56313 68358 79312	
83	4.56327 93170 51349	
87	4.56332 68003 89584	
99	4.56346 92192 62853	
6607	4.56356 41392 38513	
29	4.56382 50622 51492	
37	4.56391 99044 93979	
43	4.56399 10225 86153	
53	4.56410 95268 65949	
71	4.56432 27531 17416	
77	4.56439 38052 76909	
83	4.56446 48458 13911	
91	4.56455 95484 57054	
97	4.56463 05618 89692	
6709	4.56477 25539 29287	
13	4.56481 98742 94555	
21	4.56491 44995 59935	
39	4.56512 73310 55462	
49	4.56524 55257 22505	
61	4.56538 73168 75522	
67	4.56545 81950 95988	
79	4.56559 99168 43713	

N	logarithm	references
3		
6781	4.56562 35326 39363	
87	4.56569 43723 22301	
91	4.56574 15923 58979	
93	4.56576 52004 52152	
6809	4.56595 40190 11971	
21	4.56609 55790 77949	
33	4.56623 70930 16878	
47	4.56640 21343 52921	
57	4.56651 99826 33766	
71	4.56668 49165 21019	
77	4.56675 55833 02415	
87	4.56687 33357 24887	
99	4.56701 45965 01425	
6901	4.56703 81354 97740	
13	4.56717 93426 89566	
19	4.56724 99290 72088	
23	4.56729 69802 87637	
29	4.56736 75475 54527	
31	4.56739 10674 28992	
43	4.56753 21599 33220	
47	4.56757 91805 83628	
73	4.56788 46907 83713	
79	4.56795 51626 27534	
97	4.56816 65095 73261	
7003		

N	logarithm	references
3		
7013		
19		
21		
39		
49		
57		
61		
87		
97		
7117		
23		
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71		
81		
89		
99		
7201		
17		
23		
43		
53		
73		
77		
7307		

N	logarithm	references
3		
7309		
13		
21		
37		
39		
57		
61		
63		
69		
79		
97		
7409		
23		
41		
47		
63		
83		
89		
93		
7501		
07		
11		
17		
29		
37		

N	logarithm	references
3		
7547		
49		
61		
67		
71		
73		
79		
89		
91		
7607		
19	4.57540 72468 16323 71263 43609 755	(30)
33		
43		
49		
57		
63		
91		
93		
99		
7717		
47		
81		
83		
99		
7811		

N	logarithm	references
3		
7813		
31		
47		
53		
61		
71		
79		
89		
97		
7907		
51		
57		
63		
67		
87		
91		
93		
97		
8011		
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53		
69		
83		
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	Two primes are missing somewhere on pages 160–169, and I have added two primes at the end of this page in order to keep pages 170 and onward in sync.	
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N	logarithm	references
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N	logarithm	references
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N	logarithm	references
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0003	5.00001 30286 39028	
19	5.00008 25081 13539	
43	5.00018 67064 88200	
49	5.00021 27521 76105	
57	5.00024 74773 30344	
69	5.00029 95598 56244	
0103	5.00044 70931 02919	
09	5.00047 31231 79959	
29	5.00055 98788 37396	

N	logarithm	references
10		
0151	5.00065 52900 48104	
53	5.00066 39627 55228	
69	5.00073 33381 78049	
83	5.00079 40325 83461	
89	5.00082 00418 75101	
93	5.00083 73805 37534	
0207	5.00089 80604 05364	
13	5.00092 40634 67854	
37	5.00102 80601 51471	
67	5.00115 80209 95687	
71	5.00117 53461 70246	
79	5.00120 99944 46058	
91	5.00126 19616 77339	
97	5.00128 79429 61287	
0313	5.00135 72187 87269	
33	5.00144 37980 32974	
43	5.00148 70811 84149	
57	5.00154 76703 49635	
61	5.00156 49799 87314	
63	5.00157 36345 47445	
79	5.00164 28648 20384	
91	5.00169 47802 83740	
93	5.00170 34322 57641	
0403	5.00174 66895 41876	
11	5.00178 12922 67354	

(48)

N	logarithm	references
10		
0417	5.00180 72425 02303	
47	5.00193 69704 23225	
59	5.00198 88507 43265	
69	5.00203 20796 09552	
83	5.00209 25927 94357	
93	5.00213 58113 36099	
0501	5.00217 03830 73137	
11	5.00221 35938 74707	
17	5.00223 95182 92124	
19	5.00224 81594 20716	
23	5.00226 54411 62122	
37	5.00232 59218 42083	
47	5.00236 91171 71623	
49	5.00237 77557 22005	
59	5.00242 09458 96663	
91	5.00255 91255 98758	
0609	5.00263 68323 65111	
13	5.00265 40986 47404	
21	5.00268 86291 52757	
49	5.00280 94643 05256	
69	5.00289 57545 49215	
73	5.00291 30105 40790	
93	5.00299 92802 15577	
99	5.00302 51577 76674	
0703	5.00304 24086 27488	

N	logarithm	references
10		
0733	5.00317 17681 71496	
41	5.00320 62575 43396	
47	5.00323 21227 74995	
69	5.00332 69487 80273	
87	5.00340 45182 96388	
99	5.00345 62236 11132	
0801	5.00346 48405 65138	
11	5.00350 79227 70787	
23	5.00355 96157 76817	
29	5.00358 54599 72681	
47	5.00366 29833 33865	
53	5.00368 88213 79400	
0907	5.00392 12946 40529	
13	5.00394 71173 23040	
27	5.00400 73642 78613	
31	5.00402 45761 59518	
37	5.00405 03927 01933	
43	5.00407 62077 09782	
57	5.00413 64367 61356	
81	5.00423 96671 35181	
87	5.00426 54708 95105	
99	5.00431 70738 15990	
1009	5.00436 00715 66798	
21	5.00441 16632 49112	
27	5.00443 74567 92153	

N	logarithm	references
10		
1051	5.00454 06156 47790	
63	5.00459 21858 88238	
81	5.00466 95297 68788	
89	5.00470 39004 05945	
1107	5.00478 12243 95489	
11	5.00479 84056 34823	
13	5.00480 69959 99605	
17	5.00482 41762 19432	
19	5.00483 27660 74491	
41	5.00492 72432 68593	
49	5.00496 15935 16821	
59	5.00500 45275 06803	
61	5.00501 31137 95492	
73	5.00506 46279 63046	
83	5.00510 75517 68840	
97	5.00516 76379 70602	
1203	5.00519 33866 55308	
07	5.00521 05515 97038	
09	5.00521 91338 13502	
21	5.00527 06235 51080	
67	5.00546 79443 45509	
73	5.00549 36752 32170	
79	5.00551 94045 94430	
81	5.00552 79807 09791	
87	5.00555 37080 39796	

N	logarithm	references
10		
1293	5.00557 94338 45820	
1323	5.00570 80400 22552	
33	5.00575 09002 86472	
41	5.00578 51854 52374	
47	5.00581 08975 50695	
59	5.00586 23171 80986	
63	5.00587 94557 04953	
77	5.00593 94352 13253	
83	5.00596 51381 81217	
99	5.00603 36719 93142	
1411	5.00608 50652 55692	
19	5.00611 93240 52290	
29	5.00616 21437 48048	
49	5.00624 77704 76094	
67	5.00632 48200 99532	
77	5.00636 76195 39993	
83	5.00639 32971 79845	
89	5.00641 89733 01598	
1501	5.00647 03209 91523	
03	5.00647 88783 49642	
13	5.00652 16626 11203	
27	5.00658 15534 97297	
31	5.00659 86636 62155	
33	5.00660 72184 91803	
37	5.00662 43276 45571	

N	logarithm	references
10		
1561	5.00672 69684 16177	
73	5.00677 82797 06152	
81	5.00681 24838 65135	
99	5.00688 94333 74877	
1603	5.00690 65314 14540	
11	5.00694 07254 74566	
27	5.00700 91055 18896	
41	5.00706 89292 27067	
53	5.00712 02001 33133	
63	5.00716 29212 64992	
81	5.00723 98087 13795	
93	5.00729 10594 51735	
1701	5.00732 52232 50638	
19	5.00740 20819 73425	
23	5.00741 91598 42575	
37	5.00747 89270 96642	
41	5.00749 60019 44319	
47	5.00752 16129 57177	
49	5.00753 01496 25847	
71	5.00762 40419 08071	
89	5.00770 08477 70663	
97	5.00773 49793 50015	
1807	5.00777 76400 52384	
33	5.00788 85382 70718	
37	5.00790 55970 21912	

N	logarithm	references
10		
1839	5.00791 41261 46246	
63	5.00801 64625 75087	
69	5.00804 20429 14868	
73	5.00805 90956 37702	
79	5.00808 46734 66555	
91	5.00813 58246 05475	
1917	5.00824 66314 09827	
21	5.00826 36761 01473	
29	5.00829 77634 78044	
39	5.00834 03689 36699	
57	5.00841 70482 30992	
63	5.00844 26049 87486	
77	5.00850 22315 71346	
87	5.00854 48169 76834	
99	5.00859 59139 52008	
2001	5.00860 44295 30084	
13	5.00865 55194 92429	
19	5.00868 10622 19963	
23	5.00869 80898 70426	
31	5.00873 21431 68641	
43	5.00878 32181 09975	
59	5.00885 13086 89437	
61	5.00885 98192 61295	
71	5.00890 23696 19127	
77	5.00892 78978 32895	

N	logarithm	references
10		
2079	5.00893 64069 04035	
2101	5.00902 99956 84903	
03	5.00903 85027 55909	
07	5.00905 55163 98021	
21	5.00911 50588 97151	
39	5.00919 16015 45682	
49	5.00923 41194 10878	
61	5.00928 51353 55167	
81	5.00937 01486 13976	
91	5.00941 26490 03682	
97	5.00943 81472 41271	
99	5.00944 66463 21134	
2203	5.00946 36439 81899	
17	5.00952 31305 56169	
29	5.00957 41125 64023	
33	5.00959 11052 36772	
41	5.00962 50885 87780	
51	5.00966 75640 37406	
53	5.00967 60586 28845	
59	5.00970 15414 06307	
93	5.00984 59155 75425	
99	5.00987 13883 88557	
2301	5.00987 98789 94264	
17	5.00994 77978 64790	
29	5.00999 87300 48061	

N	logarithm	references
10		
2337	5.01003 26815 18818	
59	5.01012 60343 80024	
67	5.01015 99759 00465	
97	5.01028 72329 82280	
2407	5.01032 96437 24477	
09	5.01033 81253 75948	
33	5.01043 98922 75445	
37	5.01045 68511 07171	
51	5.01051 62018 03708	
61	5.01055 85901 93090	
81	5.01064 33545 62186	
97	5.01071 11541 47747	
99	5.01071 96283 51769	
2503	5.01073 65762 63768	
23	5.01082 13059 04551	
33	5.01086 36645 26806	
39	5.01088 90777 17218	
47	5.01092 29596 58033	
51	5.01093 98996 37242	
59	5.01097 37776 13518	
63	5.01099 07156 10688	
87	5.01109 23297 23418	
93	5.01111 77295 37164	
2607	5.01117 69899 92876	
11	5.01119 39200 66532	

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N	logarithm	references
10		
2643	5.01132 93369 01610	
47	5.01134 62610 37494	
53	5.01137 16460 04783	
67	5.01143 08718 25512	
73	5.01145 62518 47837	
77	5.01147 31710 38759	
79	5.01148 16303 87050	
2701	5.01157 46723 44771	
61	5.01182 83218 72712	
63	5.01183 67743 06139	
69	5.01186 21306 19435	
93	5.01196 35410 70910	
97	5.01198 04405 10842	
2811	5.01203 95833 72560	
29	5.01211 56123 62000	
41	5.01216 62909 61589	
59	5.01224 22977 74367	
71	5.01229 29615 93827	
77	5.01231 82912 87357	
81	5.01233 51769 29012	
2911	5.01246 17983 19050	
13	5.01247 02384 32583	
29	5.01253 77534 36561	
31	5.01254 61920 74119	
53	5.01263 90062 66948	

N	logarithm	references
10		
2967	5.01269 80595 18269	
83	5.01276 55391 17438	
3001	5.01284 14411 35985	
07	5.01286 67388 61240	
43	5.01301 84942 75048	
49	5.01304 37816 89330	
67	5.01311 96350 99004	
69	5.01312 80624 37885	
79	5.01317 01966 79522	
87	5.01320 39011 29887	
91	5.01322 07523 74227	
93	5.01322 91777 51210	
99	5.01325 44529 01479	
3123	5.01335 55387 95445	
41	5.01343 13377 78245	
71	5.01355 76400 24832	
77	5.01358 28960 66975	
83	5.01360 81506 40460	
3217	5.01375 12321 57110	
31	5.01381 01343 77097	
37	5.01383 53757 40332	
89	5.01405 40727 90933	
91	5.01406 24820 17032	
3307	5.01412 97499 64683	
19	5.01418 01940 88740	

N	logarithm	references
10		
3333	5.01423 90381 62409 01743 92865 877	(102)
49	5.01430 62787 70922	
57	5.01433 98951 71578	
87	5.01446 59335 04478	
91	5.01448 27358 52192	
93	5.01449 11367 82282	
99	5.01451 63385 97556	
3409	5.01455 83383 73410	
21	5.01460 87327 43557	
23	5.01461 71312 36758	
51	5.01473 46930 91486	
57	5.01475 98807 77725	
71	5.01481 86463 65330	
83	5.01486 90105 40834	
3511	5.01498 65042 41786	
29	5.01506 20191 24842	
49	5.01514 59091 53383	
53	5.01516 26852 14723	
61	5.01519 62353 93436	
67	5.01522 13963 26696	
73	5.01524 65558 02337	
77	5.01526 33279 76393	
83	5.01528 84850 23044	
91	5.01532 20254 85235	
3613	5.01541 42484 02146	

N	logarithm	references
10		
3619	5.01543 93967 08316	
43	5.01553 99753 73120	
51	5.01557 34964 19141	
57	5.01559 86355 05834	
69	5.01564 89093 14123	
81	5.01569 91773 03404	
87	5.01572 43091 16337	
99	5.01577 45683 79630	
3703	5.01579 13201 74963	
23	5.01587 50694 60636	
69	5.01606 76315 49727	
87	5.01614 29586 97040	
3801	5.01620 15374 46832	
11	5.01624 33745 73996	
13	5.01625 17415 15812	
37	5.01635 21322 46485	
41	5.01636 88617 79009	
43	5.01637 72263 03612	
67	5.01647 75880 34988	
89	5.01656 95659 19021	
3903	5.01662 80871 59068	
13	5.01666 98832 17334	
19	5.01669 49589 21674	
51	5.01682 86715 64486	
63	5.01687 88031 93800	

N	logarithm	references
10		
3967	5.01689 55124 51030	
69	5.01690 38668 38570	
79	5.01694 56363 65783	
81	5.01695 39897 89170	
91	5.01699 57544 96173	
93	5.01700 41069 55630	
97	5.01702 08113 92649	
4003	5.01704 58668 43535	
09	5.01707 09208 48998	
21	5.01712 10245 24320	
33	5.01717 11224 19949	
47	5.01722 95626 61739	
53	5.01725 46060 72523	
59	5.01727 96480 39273	
87	5.01739 64914 62319	
89	5.01740 48362 18332	
4107	5.01747 99318 08004	
13	5.01750 49607 85933	
19	5.01752 99883 21491	
23	5.01754 66725 43961	
47	5.01764 67644 20965	
49	5.01765 51043 69537	
61	5.01770 51406 97976	
73	5.01775 51712 62249	
79	5.01778 01843 83238	

N	logarithm	references
10		
4183	5.01779 68589 96918	
4207	5.01789 68932 36678	
31	5.01799 69044 40122	
33	5.01800 52376 67574	
39	5.01803 02363 90589	
43	5.01804 69014 06540	
81	5.01820 51871 72160	
87	5.01823 01743 88724	
97	5.01827 18165 55164	
4309	5.01832 17818 84910	
11	5.01833 01088 81017	
23	5.01838 00675 05101	
27	5.01839 67191 02779	
47	5.01847 99675 15755	
69	5.01857 15223 42767	
81	5.01862 14532 05412	
83	5.01862 97744 57772	
93	5.01867 13783 28162	
99	5.01869 63387 37490	
4417	5.01877 12113 59258	
59	5.01894 58639 61623	
71	5.01899 57518 07204	
73	5.01900 40658 91014	
79	5.01902 90071 87504	
91	5.01907 88854 83801	

N	logarithm	references
10		
4513	5.01917 03141 51551	
27	5.01922 84860 11058	
37	5.01927 00325 69264	
43	5.01929 49585 96547	
49	5.01931 98831 93300	
51	5.01932 81910 74350	
61	5.01936 97280 95873	
79	5.01944 44847 24864	
93	5.01950 26198 74460	
97	5.01951 92284 87949	
4623	5.01962 71689 96386	
39	5.01969 35805 92605	
51	5.01974 33826 26038	
59	5.01977 65808 09181	
77	5.01985 12674 44003	
81	5.01986 78627 29856	
83	5.01987 61601 34987	
93	5.01991 76447 82915	
4701	5.01995 08296 48354	
07	5.01997 57166 33495	
11	5.01999 23071 64660	
17	5.02001 71917 73138	
23	5.02004 20749 55836	
29	5.02006 69567 12918	
43	5.02012 50086 02962	
59	5.02019 13441 19797	