Update 1 to: Factorizations of $a^n \pm 1$, $13 \le a < 100$

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Abstract

In an earlier Report (NM-R9212, June 1992), two of us gave tables of factorizations of $a^n \pm 1$ for $13 \le a < 100$. The exponents n satisfied $a^n < 10^{255}$ if $a < 30$, and $n \le 100$ if $a \ge 30$. The factorizations were complete for $n \le 46$, and the tables contained no composite numbers smaller than 10^{80}. In this Report we update the original tables. The factorizations are now complete for $n \le 58$, and there are no composite numbers smaller than 10^{86}.

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Keywords and Phrases: Factor Tables.

1. Introduction

For many years there has been an interest in the prime factors of numbers of the form $a^n \pm 1$, where a is a small integer (the *base*) and n is a positive exponent. Such numbers often arise. For example, if a is prime then there is a finite field F with a^n elements, and the multiplicative group of F has $a^n - 1$ elements. Also, for prime a the sum of divisors of a^n is $\sigma(a^n) = (a^{n+1} - 1)/(a - 1)$. Numbers of the form $a^n + 1$ arise as factors of $a^{2n} - 1$ and in other ways.

An extensive table of factors of $a^n \pm 1$ for $a \leq 12$ has been published by Brillhart *et al* [3]. The computation of [3] is referred to as the *Cunningham Project* in recognition of the pioneering computations of Cunningham and Woodall [4]. For a history, see the Introduction in [3].

The tables [3] are limited to $a \leq 12$, but many applications require larger bases. In 1992 two of us published an extension [2] covering the range $13 \leq a < 100$. The exponents n satisfied $a^n < 10^{255}$ if $a < 30$, and $n \leq 100$ if $a \geq 30$.

Since the publication of our tables [2], many new factors have been found. The factorizations are now complete for $n \leq 58$ (formerly $n \leq 46$) and there are no composite numbers with under 87 decimal digits (formerly 81 decimal digits). This report gives all the new (complete or partial) factorizations found from the publication of [2] to the end of August 1994. Altogether, 785 factorizations are listed, some involving several new factors. For example, see the entry for $17^{187} - 1$ (formerly c96.c98, now complete).

2. Availability of Updates

These updates are available by anonymous ftp from `nimbus.anu.edu.au:pub/Brent/rpb134u1.txt.Z` . We shall add new factors to `rpb134u2.txt` as they are found.

A more comprehensive list of over 180,000 factors, for bases $2 \leq a < 1000$ with various exponent ranges, and complete for exponents $n \leq 30$, is available in machine-readable form from the first author, or by anonymous ftp from `nimbus.anu.edu.au:pub/Brent/rpb117.exe` (a self-extracting IBM PC archive).

3. Factorization Methods

Most (about 700) new factors have been found by variants of the elliptic curve method (ECM) and the multiple-polynomial quadratic sieve (MPQS). References describing these methods are given in [1, 3]. ECM is useful for finding factors up to about 30 decimal digits, or up to about 40 digits if we use a lot of computer time and are lucky. If the number remaining on division by known factors is composite, but not too large, the factorization can be completed by MPQS [9, 10].

The old Pollard $p \pm 1$ methods are still useful: 38 new factors were found by the $p - 1$ method, and 16 by the $p + 1$ method.

The Special Number Field Sieve (SNFS) [6, 7] was not used in the computation of the original tables [2], but SNFS was used to complete 37 difficult factorizations for these updates. For example, see the entries for $18^{158} + 1$ (formerly c96.c98, now complete) and $73^{73} + 1$ (formerly c135, now complete).

4. Format of the Updates

The format of the updates is the same as the format of the tables [2], except that only those entries which have changed are given. For each base a, not a perfect power, in the range $13 \le a < 100$, we give two separate tables –

Table $a-$: factorizations of $a^n - 1$, n odd.
Table $a+$: factorizations of $a^n + 1$.

The exponent ranges are as in the tables [2] –

$13 \le a < 30$, exponents n such that $a^n < 10^{255}$.
$30 \le a < 100$, exponents $n \le 100$.

The entries are similar in format to those of the "short" tables in [3]. All known factors, including algebraic and Aurifeuillian factors, are listed. Factors which are given as decimal numbers are primes. Exponents are indicated by a hat (^), for example "2^3" means 2^3. Multiplication is indicated by a period (.), for example $3^3 + 1 = 2^2 7$ is written as "2^2.7". A period at the end of a line implies that the factorization is continued on the next line.

The largest factor of $a^n \pm 1$ may be found by division by the smaller factors. Thus, such factors are abbreviated. The notation "`pxy`" means a prime factor of `xy` decimal digits. For example, the prime 1238926361552897 might be abbreviated as `p16`. Similarly, the notation "`cxy`" means a composite number of `xy` decimal digits.

An indication of the person and method used to find the new factor(s) is given in square brackets after each entry. We apologise for any errors or omissions in these attributions. Factors found by the authors using ECM and/or MPQS are not usually indicated, except for factors of at least thirty decimal digits which were found using ECM. (Our records of these are probably incomplete.)

5. Probable Primes

Numbers listed as prime in these updates have not in all cases been rigorously proved to be prime; they may merely have passed a probabilistic primality test [5]. There is a positive but extremely small probability (less than 10^{-12}) that a composite number will pass such a test and be mistaken for a prime. In applications where it is essential for primality to be proven rigorously, the reader should apply an algorithm such as Morain's elliptic curve primality test [8], which can easily prove or disprove the primality of numbers of the size considered here.

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Update 1, Tables 13- to 14+

13 155- 2^2.3.311.1117.30941.100860853831.46458503064581.
100889415553845820735921.817050901143136340856815036 9.p86

13 183- 2^2.3^2.61^2.367.4027.4759.7687.27817.92110001.4672993939.
6274983367069.48401662036451.71639002544177046079.
871036710464094368 47.417324063726420174777931.
715867003033745576109669960047077.p41 [Boender, PPMPQS]

13 113+ 2.7.227.9719.1267183.2158975289.4427870101287797057.
85233301561394970573344624245488 1.p52

13 138+ 2.5.17.461.28393.160081.159686609.1445443990517.6533247341521.
602053110178724749481.54836637716450236990971812089.p57

13 144+ 2.97.2017.2657.47521.54721.88993.441281.1590049.283763713.
127028743393.403791981344275297.829904283379720096947188956 9.p61

14 119- 13.103.8108731.2709038809.22771730193675277.
243116937361539697.61335011024319333326225871690621 1.p51

14 121- 13.67.4027.1154539.123299243.831510853163.
2879003390005532849687.81099671253120218556728137047 1.p55

14 143- 13^2.67.157.2861.4027.1154539.4710563287.
29914249171.21960812413442286164638 01.c101 [Montgomery, p-1]

14 149- 13.73309.2921184325571.3614646313204739.
86461323974510452851899.c114 [Montgomery, p+1]

14 171- 13.211.229.397.18973.428299.5231917.37573673070907.
459715689149916492091.979597292881313378323.
172583931359406979929545556988 0861.
775394364708130234316591967342755605 57.p45

14 211- 13.14771.1162074863209299261199.c216

14 94+ 197.123517.2368823735886785295559763711306363837271095782 9.p54
[Silverman, SNFS]
14 101+ 3.5.13933873747.91345330859266674719.712364863183862755941160105 7.p57

14 108+ 41.73.937.1475750641.44030132882434030723817977.
390267551541285967420352592033193.p50

14 113+ 3.5.227.634157.10795722697672567403907 3017.
74400545290622839154394491 3.p68

14 117+ 3^3.5.19.61.79.911.7307.40639.100621.132049.84710027970100651637689.
57287251477993448670440574107507690535463.p42

14 119+ 3.5.137.239.19993.134471.7027567.1058810593.
14837638311110071.17531470066490207428279 1.p66

14 123+ 3^2.5.61.83.5167.86501473.95263009.888639331.
18488166845201723816450 83.16917061207263158193800141 53.p56

Update 1, Tables 14+ to 15+

14 124+ 41.937.2729.118269961.146631476887771020062843377.c100

14 127+ 3.5.119881397.92695344840516586496902796337l9.p106 [Montgomery, p-1]

14 170+ 197.1061.2857.1383881.2774129.1253535423961.20442260426821.
475021736393117.10174250577999853023931141.p109

14 180+ 41.73.937.61001.698521.51111761.1475750641.59203797481.1411198114321.
44030132882434030723817977.80123309993635647613346281.
215015681669581407360483771915 61.p67 [Montgomery, ECM]

14 201+ 3^2.5.61.3217.86029.16731682871.56826978889.
742346622710948405402237.14202676205029365909616903.
385208529703063036206466231205052676 9.p112

15 107- 2.7.643.1499.194527.609913483.17221279121951.
829607950636581161215073 3.82388639108602402111865145845 1.p36

15 161- 2.7^2.829.25439.31741.45403.1743463.164006995391.
3046462151831565769.3001167062138973417187.c114

15 171- 2.7.241.541.7867.21061.4272113.8413543.292582141.370649274902657.
27356176273283847230561 3.27668755140233459139426 1.
69695219139396515155206340982824 1.p68

15 97+ 2^4.323912067331561466926628163233.p84 [Brent & Silverman, SNFS]

15 104+ 2.7121.179953.736921904993.290340653215025713.
588168656850303143392158491366473666874 9.p43

15 112+ 2.257.673.2526721.31845722644513.12779004583099009.
149865727618680485106084082367297 9.p56 [Montgomery, ECM]

15 113+ 2^4.227.3391.6781.5171333.676653946487.
5358063355525776963451.164146647430823530959671 1.p57

15 132+ 2.17.89.1489.2562840001.3089451817.856420938543915930300022777.
124237234930487846033410074853907530831531280 .p58

15 168+ 2.337.2129.3169.7121.66529.179953.198017.363217.745249.
1659649.1248882721.12515552561.1038405709913713.
777453109529036081.5840270932038540650689.p78

15 177+ 2^4.211.709.7907.12391.565322071603278863.
8926268454958879942458 1.769999878418004456634773071.
342733551361650189671135368490363529691914956 1.p79

15 178+ 2.113.4761857.402910119444039736424873.c177

15 183+ 2^4.211.1831.7270591.234519435023.14563562998279.
1805790344137304843.107888962684389357049.
420468502287593339703 9.581297171188805516982412738813981.
813955484880867729087754985064728242746 9.p43

Update 1, Tables 15+ to 18-

15 194+ 2.113.389.21341.92886702549393134753836478 9.p192

15 202+ 2.113.1213.6869.78749749441179985117.c209

17 115- 2^4.47.88741.335430126425379392951.
1070187968644717154676571.26552618219228090162977481.p64

17 173- 2^4.57170070771999284093.c192

17 183- 2^4.307.15103230859721.80513057603299.
1655148745882817700457.1513947353926876906423 9.
472274351760291231981092344112249834947803481361251347751378 1.c91
[Montgomery, p+1]

17 187- 2^4.1123.10949.1749233.2699538733.2141993519227.
917705581551146436031802327771 03.
561497983151766532705780082758095097 9.
176984183697939298639383911767908946064309140250481466771828 99.p64
[Aurifeuillian; Brent & Keller, ECM; Arjen Lenstra, PPMPQS]

17 189- 2^4.19.43.127.307.433.757.6427.13567.24733.1270657.
25646167.940143709.12135432683683.1313154695584063.
41643373496311819.219769291604284568749.176800390667 2034233419799.
373872169882156061470639 33.607701480905421954959792340923587.p36
[Boender, PPMPQS]

17 199- 2^4.760579.598591665856686529.1760811787300683499.c202

17 76+ 2.41761.113550036295416877113357628579188779 77.p52 [Silverman, SNFS]

17 89+ 2.3^2.217124105468932365306886518080158655115548 9.p66
[Silverman, SNFS]

17 94+ 2.5.29.8837.586382831120246718592664 9.
238824108369072337553839623931699681.p50

17 98+ 2.5.29.197.578789.5766433.100688449.
139005288056819459473501243273273125071599637.p52
[Brent & Silverman, SNFS]

17 193+ 2.3^2.6949.138207259471.2249401867464340847383.c200

17 202+ 2.5.29.1213.33342121.255192827795307979630237.c213

18 103- 17.16327518523053828584399.97801848267748603814503 93.
159367546049323613115199372757630 87.p47 [Boender, PPMPQS]

18 109- 17.223795967.16338222831518191496551328 9.p102

18 125- 17.41.2711.602401.74813517001.21162386787273369601.
367759243958635443668410 01.p90

18 173- 17.1039.12457.184073.85205658777352805361851273.c178

18 181- 17.65536068769.346355593522241.250524183190568846758799.c178

18 183- 7^3.17.367.1831.367831.5608951.4110876980385153863.
41692492120245692358425 83.
145074499698833318992189267378238423380955168674756 7.c114

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18 193-  17.24697464417501280623919.35642806830567716625687623.p194

18  79+  19.1735973262881810486884626006469367486329.p59
                                                    [Brent & Silverman, SNFS]
18  89+  19.179.9134249.5913313191525493627.
         19707963950138874818292198421797573337.p46

18  92+  113.929.18313945455473.124292740483707572652291223230113.p66
                                                            [Silverman, SNFS]
18 109+  19.169490612692287574588118884321.c107              [Montgomery, p+1]

18 111+  19.307.1259.239539.57095169829153516132919139336069139.
         1164939463722239475169554761379636729267089.p51

18 115+  11.19.9041.24841.1930773408050211089575377161.
         3913037558632733048069409307.7516342403453194393474042331.p51

18 116+  113.929.5569.26932417.51523455970414686913.p110

18 145+  11.19.59.1451.4931.9041.1270201.21584216281.
         312275133902139621761.1586801117788981679412251.
         2255781524824231358697279947382689.p73

18 155+  11.19.1427.8681.9041.19531.70619.984938339908206953441.
         427906142457974033788659934939.c122

18 156+  113.929.1249.1873.27457.11019855601.260800658620746193.
         113633993486079374108113.3666313911384869983836065484314196953809.p90

18 158+  5^2.13.317.185026990267721725625447928330141280148587909.
         3735633632419115668144385885859007488592446776521.
         15711715905379982612012445487652618547579630505057.p52
                                   [Montgomery, SNFS on Aurifeuillian factors]
18 181+  19.17377.28356547.5085109086273659366850369361.c187

18 184+  97.113607841.7309231059435841.5034160949052476449940737.c181

18 189+  19.43.73.307.379.6427.46747.465841.32222107.337268233.607371619.
         31865908033.1234749313729.443134151361467421266377.
         4591020241431358911787281317666857153.c106

18 190+  5^3.13.15101.60497.145501.199501.269117.74792209.284647361.
         6261053129.223962569921.3189146193161.54531393851401.
         3697367283002441.202438500542522921.211447769376727722511921.
         1659352458887702863021373641.p64

18 194+  5^2.13.389.1254793.62531633.3852395353.
         285724807097.11986688438966689033246328331593.
         42483571366125079581250704287511077869290098582519955732360841.p111
                                                            [Montgomery, ECM]
19 119-  2.3^2.701.70841.3044803.1543628017.99995282631947.19987548346939727.
         19334422649069921660849.3733480699267356089008872256290307.p42
```

Update 1, Tables 19- to 19+

19 135- 2.3^5.31.127.151.211.487.523.811.911.4861.29989.216919.
584911.907471.2460181.362063089.837400685143608576099315 1.
265022847282245344692773124402 1.p56 [Montgomery, ECM]

19 159- 2.3^3.107.127.1226209.87097657.4739153047.323930821687153.
4086918000521042669809.2551089855701675251204783.
37334173314913678536474517.p88

19 165- 2.3^3.31.67.127.151.211.331.911.2113.104281.2460181.
4378771.34451077.62060021.384180191671.484536191701.
7302593769703.3047899314965432210712031612351.
27627201553700582787428637921128091579 01.p52

19 171- 2.3^4.127.229.523.6841.29989.35232500053.7766130173689.
80558460464029837.81403978301424181910737.109912203092239643840221.
340801506876062492779357.652098348208287400914289.
17545847237338151315188769 41.p41

19 111+ 2^2.5.7^3.13167515699865341218291.
10300379826060720504760427912621791994517454717.p70

19 112+ 2.97.391311355715212577.1486811410142377153.
670126218677699760257.285637110869849515613428 49.p59

19 113+ 2^2.5.231494967593408932347161.c120

19 120+ 2.241.577.1009.4657.14929.15073.29569.563377.2772481.
457419700479928304181062062452 01.
300086633798351403312616140927120 01.p51

19 123+ 2^2.5.7^3.83.3651133.13912531.36743833051.
962356121193062757435287872191585643.
44295733509282429967245906658496739297931 19.p49

19 128+ 2.257.136816129.33225725139813889.754656840241231034881.
12318752177608821548801.p94

19 150+ 2.13^2.181.769.171434401.16936647121.1687178375041.
675303194549101.590165627314172101.3545449651653764401.
50354695689851837101.59398894883664842501847354681792720 1.p47

19 154+ 2.29.181.617.3697.5237.774797.50515081.61170649.
14533200697.289300378289693.48381877771677135533.
48565026713061620388848761.c92 [Montgomery, p-1]

19 156+ 2.17.2393.3833.4297.7177.3952393.69034016679735329.
430418473330753413594903 37.258736314675653076939912808873.
20240476166390259493325765865267467809.p68 [Montgomery, ECM]

19 165+ 2^2.5^2.7^3.11^2.23.61.271.859.2251.489061.519553.
1081291.181258778383.253239693257.150669382018464871.
81584458320867610351577 41.248195341904445230829138660 1.
89743409544356143883796117094642 1.p50
[Montgomery, p-1; Boender, PPMPQS]

Update 1, Tables 19+ to 20+

19 178+ 2.181.586549711036607087773.692955604336994802553.c184

19 198+ 2.13^2.37.73.109.181.769.35533.211573.774797.100719037.
34422653233.205228610269.48381877771677135533.
786294670419074287777 69.336179478092386645904 2010713.
690410667839084470867178743061765864 4229.p85 [Montgomery, p-1]

20 71- 19.201161092255316201234202042361.p62 [Silverman, SNFS]

20 117- 19.79.421.1171.3121.142559.363871.9690539.64008001.
172311318287603732461390609.506768466109707 6980812292 8009.p60

20 143- 19.3121.142559.461891.9690539.1037966360861.10778947368421.
89069400431539529.821651084995160038985081.p98

20 181- 19.5431.1679681.45404357846358829.p208

20 189- 19.29.71.379.421.6679.17389.32719.47251.460951.64008001.
879338701.8442733531.298114935351301.554814907753599944037466111.
102876009584581825049834199946 0935836 3826919.c103

20 191- 19.473879719151.206106071370102461.c219

20 193- 19.6949.817549.1751408411659171.1921978129885688939.c207

20 94+ 401.637455173.4378474774721.5634378340885013.
267067556675321437729722313331881.p51

20 97+ 3.7.389.1002204583.9446725241.1814565957918978949.
264533291201428766933949508995 1567.p52

20 103+ 3.7.10301.1023409.13949254290107.
41006820590689355038289.466124620389646774905361.p64

20 108+ 73.31177.160001.821113.4468393.160408194049.51433451961886233152209.
603561598410969879 0059593.528141346839630540377 60473.p32

20 121+ 3.7.23.740521.149810827.424016563147.343040240510243.
90903843289299418643.c95

20 125+ 3.7.101.152381.3990001.1035087720001.3404655742001.
103819373497039841580 9901.382106408343942026422164625 01.
955049770657203116206924690 01.p42

20 127+ 3.7.22861.206249.78732889.2824620209.57564425105062873850506481.c112

20 129+ 3^2.7.127.947.6233315089.77531278091661718849004 3761.
567813907954715939791293937 5079489.
740035581691937571153523632895280600341.p52
[Montgomery, ECM; Boender, PPMPQS]

20 138+ 13.277.401.12277.6373576093.103759810117.
10725299405489.149215059177228353019201907 1401.
256710024448750987786175822525482 13.p71 [Montgomery, ECM]

Update 1, Tables 20+ to 22-

20 150+ 13.41.401.601.2801.12277.71161.222361.
55191001.167283841.795206712572651793400201.
1099511627775892625817600010485759999998976000000001.p78

20 191+ 3.7.383.70018911943.1757822589992389.32976171945298018943903.c196

21 85- 2^2.5^2.40841.1502097124754084594737.
1150028788130629740057268920501316648506l.p45

21 107- 2^2.5.1734899.4272624310883.352523466309500183.
55837009494804076861723.16339864316070753885738065827.p53

21 117- 2^2.5.79.463.547.1171.189437.61045219.85775383.516094151.
80459337199345300130638393.479667952955520596219571126379.p58

21 123- 2^2.5.83.463.14122861.83218931.17222085343.914531249431.
52899783148909.14740111049499589838568 49.
367541000424902470501250402608394113.p47

21 153- 2^2.5.463.15607.38047.80031547.85775383.
625770304116639832567.1502097124754084594737.
340983310555942800230 53.847586878961383719143557147.
5123356912470572184950000998229661814 3.p45

21 108+ 2.73.7993.97241.816769.518118697.808208209.14697355609.
81967288802253121.303990417357972559486250800 33.p53

21 116+ 2.233.2089.97241.554017.1221702721.120641464859932258901716481 53.c100

21 123+ 2.11.421.1231.1766117.342306022057032544447.
380770063539669474313312691529545132713.
339852821175178812709034927847468354425381 63.p47

21 132+ 2.73.353.3433.97241.313433209.518118697.715521049.
29831330140869137.32775913825604401.186053600690333 4289.
121328963242175651825534959690920155497.p46

21 135+ 2.11.19.31.37.199.271.421.541.613.2551.5077.17497.185641.
501001.658261.7101932659132249.822075756640950024957079 81.
28103216985135750792313441 81.p63 [Sosnowski, MPQS]

21 143+ 2.11^2.23.859.2003.6073.207923.5023019.10362529.944156929.
165238453381.7021471715414521.19725500031525136314134334713235761.p86
[Montgomery, ECM]

21 171+ 2.11.19^2.37.199.421.613.609673.5285953.67505443.
89287241422177.987749814642143197.134345642775344115470124 1543.
116839318491602442765024012699505 9.c101

21 187+ 2.11^2.23.1871.6073.11969.1172491.10362529.
114089969144083169.21871159470059504243.p183

22 95- 3.7.45943.245411.341203.50218172111.97404596002423.
962435791906840355509151236741426 1.p52 [Boender, PPMPQS]

22 111- 3^2.7.13^2.310727.1084328143.1886989139768881.
3104965487637814747660 81.37955219117753412043175846 93.
3578162842988665833114059169582 1.p33

22 135- 3^4.7.13^2.61.109.127.163.271.433.541.13591.245411.
297613.396091.2558953.858794191.1818246421.24678723493.
30694259777925236834701.230578992060497937475215676741.p53

22 147- 3^2.7^3.13^2.883.2647.51647.737353.16968421.1545133367.
1987506739.1204702623931759.12271836836138419.
20193916006425315875862331.29421134958260026730140585 3.p67

22 159- 3^2.7.13^2.18127.84328737834789969061594 49.
98620085581337761407456901 63.
79470727488489083832265659621040634430591781 9.c108

22 89+ 23.136883.33382650615125103824616300998 9.p84

22 95+ 23.191.571.224071.15187651.23967703.58167002655376561.
77671055466842897847630169138452481.p50

22 103+ 23.12546019.87217943058345922522845 43.c105

22 159+ 23.107.463.44839.180413.359129.94763047.103442452777.3157235118397.
9726491634314765764189.66068154404384103893765131257 1.
279553697320395979848008032335324462330605717.p65 [Montgomery, p-1]

22 173+ 23.347.2423.9689.28374708516071709023.c202

22 174+ 5.97.157.929.1489.8229211681.5905440414034349.
29261015312845339213.97894581646815123664522 9.
272587378658923696504296965026924118844464526649734902689.p97

23 83- 2.11.338309.364419547069027138439.
27736074503263071062950778805992164759.p49

23 89- 2.11.11393.66751.70667.460843.31062781.470991383.
123947354355621132967704100189122333 53.p48

23 111- 2.7.11.79.258631.1736163069253.1925658337781.
31813375412400032788220942100290925 1.
57138392421383076278895384245979628 61.p45

23 127- 2.11.509.7621.98317389091.123971678128031.
231341492176352686686007.p117

23 129- 2.7.11.79.173.4129.92107.127711.810379.
23148176671.17976443246823233651441703 43.
10221991785038781199082463693047534035751933680922 3.p63

23 133- 2.11.29.2129.16759.5336717.63877469.24939218613613.
770041982060401.28422100122687079956425111.p103

Update 1, Tables 23- to 24-

23 153- 2.7.11.19.79.103.23869.42331.7792003.
189909327709.62246266355102810647.
2820969191101751999389.40333150102393233358849567.
84989008991373925794866275870849990869l.p69

23 163- 2.11.4317384634959051641.1395279662546069925421.p181

23 124+ 2.139921.32809657.21488713821793.120377277700913.
193794572237529420929.903306714396084899161.
24826733754645519536393.p65

23 138+ 2.5.37.53.3313.7549.428353.20694209521.43166461432817.
212620343166625553.20924327591519655582936l.
15934243655985916238122009.
122718211887325892007825251037722590536l.p42

23 147+ 2^3.3^2.13^2.71.673.2969.8821.11173.315569899.171913108319.
14284335193633.1414566930063953.22865554874031409.
448514601593253553.7739770426348672785518131.p74

23 162+ 2.5.37.53.73.109.757.2269.4789.5689.7549.30781.101089.
289657.1636741.6908329.18996553.558162674404286293.
917439914123974009.13170527857973946114645049.
44714816409197297105084430356371l.p67

23 164+ 2.139921.23838755702749293353.c199

24 107- 23.643.20343269.10066705949.247528789079201840261.c106

24 109- 23.4842653.5449327253.6639169291.11290904027914827389.
527454078571971053333.752941050854636892247795591364154l9.p49
[Brent, ECM; Denny, MPQS]

24 111- 23.601.3701.319681.48844975391.49955829499.
211905972652074960927395011.2811571465819427016103623342907808l1.p57

24 115- 23^2.47.3911.124799.304751.346201.5576648219381.58769065453824529.
34280564819457878501.8237266808135890476619077837l1.p56
[Montgomery, ECM]

24 123- 23.601.2789.33457.40462534363.5079389540237737.
27686031035363235611677891.29418461615149475645830439.
90435365932534444012977337.p55

24 135- 19.23.241.379.601.2017.2377.4987.14851.17881.24481.346201.
2400571.4965841.3227151869857.1656768093832648777312531.
13336392971215607707261628307072l1.p65

24 153- 19.23.307.601.1531.2017.2347.4987.120574031.6166060753.
16533114211.178335684937.341563234253.61083809012629860337.
14009384780947966376136889.635055477787059362352196248l.p67

24 177- 23.601.2872003.3156383.155993712571.40322995067713.
2005852078272962962l.1032647871295294148397l.
46099269535984502131186978763710590316939.c121

Update 1, Table 24+

24 101+ 5^2.8978093.5225862612935168717.p113

24 104+ 17.1249.2801.2311681.2599263473.3380092707925929556799057.p96

24 106+ 577.152010807624705722836249.c121

24 108+ 97.433.114769.331777.1134793633.101611758035521.
213069751616028318695713.377988824364409346206939489.
116210455510659157780300781 29.p33

24 109+ 5^2.2617.5233.252889825244820344418209334 73.c114

24 112+ 193.12097.349409.2356609.76243169.44683954562451841561 1873.p105

24 113+ 5^2.227.80438852477.205842102561384701.26520848092753869657567871.c99

24 115+ 5^3.11.461.5791.98809.124281991781.492913612417684781.
22496867303759173834520497.248909422709035742190488710 1.p63
[Sosnowski, MPQS]

24 125+ 5^5.11.151.251.5791.7951.86501.46739551.
165634351.1458251299382174656724501.c111

24 129+ 5^2.7.79.173.3011.20641.597271.6559590140985663005209.
831104803596232295006163713627588347048485714991.p89

24 130+ 61.577.8581.20749.854881.1801385941.680640416821.
30030953107741.2136732643031689.270441025993377649647213 61.
684989928644194001785075922656446841.p50

24 141+ 5^2.7.79.659.22091.9127777.48198971.202112597.12844652726099.
857469439154338058761.162754889847697678105114690 1.c100

24 144+ 193.349409.436417.2356609.76243169.256684033.13240554433.
1216141647361.1719691754689.14499137918017.29754067200769.
20891409541764481.29446799425050925604161.p63

24 153+ 5^2.7.79.103.127.199.409.919.7561.10133.36941239.131771863.
1585038487.11144891198810483.414685897598848074528792 7.
638531768638627329872 3473.c97

24 154+ 577.1321.11617.178333.97238233.374925097.261501808988233731193.
1374124786713429050917.3108342130345834856905 3.p117

24 156+ 97.521.24337.331777.2999569.3714049.1134793633.14694225937.
64223630017.456617644577953.156981927006735707137.
53162539811946412295200682252826346188916755684835193.p71

24 159+ 5^2.7.79.107.1061.450077.1918728367.818799399503055904719731503.
110884239044159568894544885405741235293973649215508688031377 07.c108
[Montgomery, p+1]

Update 1, Tables 24+ to 26+

24 165+ 5^3.7.11^2.31.79.991.3391.5791.9241.126127.1090681.28295741.65397751.
60867245726761.3625112557571473.1113507505305535025875172544 1.
16368540352878007335186846657001.
826992956635033305972373470696688983601.p52
[Montgomery, p-1; Boender, PPMPQS]

26 71- 5^2.1475239.2270440490478175159386113.
4403142471175115841662119256 09.p39

26 79- 5^2.936941.4153979.621140503.
13879182464833427374853629783470163645033 63.p47 [Sosnowski, MPQS]

26 97- 5^2.46670952869.358859264713874450688221 83.p100

26 101- 5^2.607.2836081.1164723277843.123325145485121572437880777.p95

26 123- 5^2.19.37.83.739.34687.2633923.2227332988104129559.
188923547140324017002414902389814762308872280 3599.c88

26 125- 5^5.11.751.4001.8641.295751.317701.2906801.
4315817869647001.20099560745902897862501.c107

26 159- 5^2.19.37.4241.150097.358043142577.1344577540363.
1971203353831.264386780671677019.1471041807055513352503.
87728430468489003278234446945154202781697.p97

26 112+ 33377.101377.77143422497.430164069753779201.
66677281918682026467736 01.p96 [Montgomery, p-1]

26 119+ 3^3.71^2.239.953.3299.4999.59011.1935281.6024019.1315750871.
5432384987.11829879544883.11845893623281649.
196194737038969543419763.p62

26 126+ 29.181.677.757.1621.2521.4733.7309.77768062633.
694230517093.95340546766204237.95658746231358073.
154931425506203856971990677659954487371 7.p59 [Montgomery, ECM]

26 132+ 17.89.26881.240769.262153.2383015361.208826607601.
12295864997249593.49540453900511641.2412690603599756569.p97

26 140+ 17.41.113.281.1721.2081.26881.748217.16947835297.
296985885709361.6355345293012073.1299094038835798965481.p113

26 154+ 29.677.4733.11518277.18244381.648056861.52999049489.
694230517093.1290219273113.2665780306333.28031538253489.
155222086181453787434 41.c105 [Montgomery, p+1]

26 159+ 3^4.7.31.107.2333.504200449.5156527199.867851084599.
5878320799289242027.5486539943666879618116 4201.
516736695528450131690916268175579.p108

26 169+ 3^3.937.4057.6449.38299.397073.1470977.96128103348353458186897.c188

Update 1, Tables 26+ to 28+

26 180+ 17.41.73.1721.1801.2081.26881.1586737.3555001.208826607601.
1209711929761.2253596398489.34886419791409.296985885709361.
7528533299625721.277836197703837841.13016305794792229561.
25260253798702972687179651708 1.
45132311008608215665287883318562521.p43

28 93- 3^4.271.373.1117.10789.1675799.14307617.10417530518294168712809647 9.
97512831549426058505928284666426595134 47.p42

28 121- 3^3.11617.70423.6077039.50545507.2510904286447886473.
334379886633189962093.c112

28 129- 3^4.271.1549.3613.56503.60029.684217.44447209.
105942074311.23321405465263.17068111104046291434149.
17099177332843917300171 37.16465708857900520067261331 1.p56

28 153- 3^5.19^2.103.271.307.57427.444979.8061059901399457.
366725909655733758769.148020807352107352204781.
412037760199357579738273.c116

28 165- 3^4.31.199.271.15991.637421.734941.2054581.6077039.
50545507.16071033331.829366011211.94275090945167441.
5906633396655970661.38681906982937869421.75223260922213952461.
42514107614978695557218 1811.45548901877239820989622913253 01.p40
[Boender, PPMPQS]

28 173- 3^3.123736064025936372104807.c226

28 73+ 29.877.1081277.361030699.819657058077833295687571.p62

28 87+ 29^2.757.40427.1074509.254041893558435224697786979 43.
78986076594620414501936740817451437263.p44

28 104+ 17.22223646961.19789341205087347551633.c117

28 107+ 29.249636137.4043254583.154682142051150320956255 43.c111
[Montgomery, p-1]

28 111+ 29.757.1999.6661.57930214687.1004690609843.10896566818756621961520 19.
93268366116497859600383042170 39.20716530271154998370621650655677.p41

28 117+ 29.37.79.127.547.757.2237.102547.114661.284467.1598039.
1672698885245389.362421235545671159911.
24851576917027369280519242 57.p69

28 140+ 41.449.23633.29201.41641.614657.23803361.54034289.213827041.
856213121.439840060577.2863024493281.15463990974881.
3003033748840445350801.48834914196295858039920 1.p65

28 141+ 29.757.34687.40763101.175323719489.1892292333735833.
29837733926988190223311.10794451258505794581848338245438995963581.c99

28 161+ 29.1289.13007.35771.1227143.115152031.140668620541.1490362205711.
4099849287367.53604041674789946568937664587612 2041.
13809105492012610953977444908132927791345 1.
19392365997036732253185233225933315357379170 9.p49
[Aurifeuillian; Arjen Lenstra, PPMPQS]

Update 1, Tables 28+ to 29+

28 176+ 97.353.1409.3169.453377.2012449.4338337.168542177.
1113035644744321.9322693790553541578049.c180

29 103- 2^2.7.1031.340519.1469224961.636627836172717848527.
15290755863085981013017.p89

29 119- 2^2.7^2.239.3911.199921.1977917.9118019.88009573.
33505187587603.94537265603472288554609.c103

29 123- 2^2.7.13.67.83.1231.2789.446983.40053229.248807517236987713.
4012056451612484127667 3.126031403391760996696610042 7937.
913895996627083667480895272358121.p51

29 133- 2^2.7^2.1386659.88009573.82876670522336069.
78885870548026497089.157193380600163813309.c122

29 135- 2^2.7.13.67.181.811.14437.22111.41203.52813.120691.732541.
2284147.1710290161.1744612878442321.208015951433360864196786211.
125179767972033304003588319121811441.p67

29 141- 2^2.7.13.67.283.179917.659693.4440937.7823903.4225321621.
16200263293163.100338952626091.1830331915418999963.
6871818784474993543.3576995681195463204429511.p77

29 163- 2^2.7.2609.25092000277.1719379794329501.135064014764676865979.c188

29 165- 2^2.7.13.23.67.181.991.22111.120691.338141.732541.17607980281.
1193512007711.18944890940537.1332304938204042 1.2018520940769719651.
9705731115425038321.5625377963242179726741631.p96

29 167- 2^2.7.4270376106287262589.638712371513198542453.
640330616130442247229277.c180

29 169- 2^2.7.521.148123.501931.3616939.82162393.4748492087.
449033250265336621.749736600837401225647.c170

29 171- 2^2.7.13.67.571.2053.3079.11971.14437.41203.73303.1386659.82947313.
25870658059.644657071033.274773085966123.157193380600163813309.
11991605517324603297179 2999.3106299207271799583804145 09.p95
[Montgomery, p+1]

29 83+ 2.3.5.2776655773.192681282257.6444388303019780506602 47.p76

29 96+ 2.193.577.31805569.63354497.67510876414905965309150821386846585 7.
256077358253602700102019471691674880 1.p48

29 103+ 2.3.5.619.14627.42052841.10617820935965413.1151869947110526846443.c98

29 109+ 2.3.5.30088361.34203329.210063929.1667721246450941189582189.p111

29 110+ 2.421.1061.470925821.402546025333.439165605149799397.
9582461125713211290721.c96

29 115+ 2.3.5^2.11.31.47.401.13878779543775756973646971.
30615040551414296246388782785 39.p104

Update 1, Tables 29+ to 33+

29 117+ 2.3^3.5.19.53.79.271.937.1171.3407.7489.10435069.252918667.
695350379948813637824 89.16391938216823220954168370090428 79.p77

29 120+ 2.17.673.2161.26209.561377.1056241.128971441.209522641.
4966942978351201.92552932737272641.37183725658223937 9457.
92963666359817282144173656337366288 81.p45

29 123+ 2.3^2.5.271.20747.812129.1453369.5055629.3711544517.
155330423557.350069058439.188259475347389.
136327399732629034708 99.662048291817281104313190807 1.p56

29 129+ 2.3^2.5.271.241800198061.1137465695629.39746663511671707.
133177957789908209067 1.2027049776208383967809.
389281282997692871576048842 3.110456158177046040747765490 73.p47

29 130+ 2.157.421.1061.6917.470925821.6184621210242371870741.
115137932261932697952213846689.c119

30 92+ 241.1289.3361.2772697.36889506708553.97438392848375667399943137953.
182423437296421993495294761731633.p46

30 94+ 17.53.834123355493.24274869980616021618875753.p99

31 71- 2.3.5.17609.611127785361198601.64244380991960907220477816 9817.p53

31 91- 2.3.5.2549.42407.1661479.2426789.7908811.917087137.
473516688426601.11223995634304407975732373875451 43.p51

31 59+ 2^5.10489879745311674431216338378649650917 49.p48 [Montgomery, SNFS]

31 74+ 2.13.37^2.593.1071373.1939097.50121089.
144448803773715099122659251615737.p51

33 67- 2^5.4289.1084112663.11098897650130502135455967441.
185608474119759489685644626 23.p32

33 97- 2^5.2565353211241239499.34375228101855640046118460 21.p100
[Montgomery, p-1]

33 61+ 2.17.353384347.448145037542459115968046471 7.p55

33 68+ 2.97.137.6113.20809.2430316601.21373531350655016111130353.p57

33 71+ 2.17.6108983.3648534830043396481338793.p75

33 73+ 2.17.9895446145087.54100708138621.
156957493352355866475767518819303.p51

33 81+ 2.7.17.19.151.271.307.221401.253681903999.31332290054833.
167141010572952350425554799.p56

33 88+ 2.881.72718097.136394897.703204309121.1981665371137.
421026213204368695355652881.285500116060848674075963012 9.p37

Update 1, Tables 34+ to 38+

34 71+ 5.7.569.853.1847.2699.28628148789089259039542317 91.p68

34 86+ 13.89.1033.9353799977.182195626458311509.
29373075322585183684254746838 73.p68 [Montgomery, ECM]

35 71- 2.17.79379.23281886333.126802643319818887926332 71.
65826727685149743695999036780665 43.p34

35 62+ 2.613.6664269889.366902620771948144206857703016969665627 7.p44

35 80+ 2.577.641.632016012663361.4394231174092284521569.
40364857053048006505472241888 1.p52

35 91+ 2^2.3^2.29.5209.11831.6276271.594780551.1172027872471.
3285353271721733941.3281197532676737263885470301062301.p51

35 97+ 2^2.3^2.109553159.641512217.334359797147.540510568883.
420479896307899.51270597206827123527214 1.
30507933086604255124118443.p45

37 95- 2^2.3^2.11.41.4271.4413131.101607631.3933538789573170812717.
18222964579419158140966651084 1.p76 [Montgomery, ECM]

37 58+ 2.5.137.188862267838638894183617588461.p59 [Boender, SNFS]

37 82+ 2.5.137.17802405001.10845656230655112050361336077.c88

37 85+ 2.19.103.2551.1824841.1826651.77002351.11662951988401511379768 7.
31637212675316796218304522472552048434 1.p45

37 89+ 2.19.179.1069.2137.28063100758218137732374698 1.c103 [Montgomery, p-1]

37 95+ 2.19^2.191.671081.1824841.8096700889.559698440382833.
1519466836675201951.50466078595781090264835756 11.
10639353032386150739358492723 1.p33 [Montgomery, ECM & p-1]

37 99+ 2.19.23.31.43.199.2069.4621.10099.9181261.12892843.
173042431.2533429537.11722233667.98389112119.
10698834482745861633993249769.p56

38 71- 37.80230427.570576242805599.
136443734867987898193481.28547590564702596672839 77.p41

38 81- 37.109.163.1483.169471.87158971.313179008463693424243.
51166207516397076206041753843648432 3.p50

38 93- 37.373.1483.36767.1687081567.18418137757.
11856360601067224569639354253.40972786018772960413232838511550 27.p54

38 59+ 3.13.13018462432992822178052993720857.p61 [Montgomery, SNFS]

38 97+ 3.13.839682247.115049291380938731911.164174702417842847479337.p100

Update 1, Tables 39- to 42+

39 85- 2.19.31.191.401.312971.729665161.
9393136322591018941 1.75081570809262748250653381.p68

39 59+ 2^3.5.362647729469645531483708582635843944440410721.p48
[Montgomery, SNFS]

39 68+ 2.953.1156721.150946477016946024834952969.p73

39 71+ 2^3.5.72955773291998591122529.p89

39 76+ 2.1217.44537.1156721.380121424810577.
589163534319058114245436 98977.p64

39 81+ 2^3.5.1483.2089.1684387.331056937.131601316519221960979.
244300361656666306998927844113351805 9.p50 [Boender, PPMPQS]

39 97+ 2^3.5.11059.8891275693.2127445285204501121.
254552381969898653477.464911694522045427861784216 31.
239044748808095530515651355267.p42 [Boender, PPMPQS]

40 79- 3.13.66361.10816997.21644432937199.8047516900168147.
101877468908821253389446959989 3.p54

40 58+ 1601.74435461.133767198412633530953435485071710 21.p48

40 62+ 1601.27281.29683741.9934573793351813543760747276183581.p51

40 68+ 137.769.3329.399433.11773534039745782544815031 3.p69

41 67- 2^3.5.269.466723.862559.168225209.
196633877057848946743623103.772455474429171251652964117 39.p30

41 87- 2^3.5.59.349.523.1723.248879.69238518539.
2780579209437647162359 93.4155835943262726558454439.p65

41 59+ 2.3.7.13003324711223675162020886035234448231.p57 [Montgomery, SNFS]

41 77+ 2.3.7^2.71.2311.3851.9329993.92058854581.
5669871130991.35675520936728097016443150560 9.p53

41 95+ 2.3.7.11.61.191.4111.565441.10402647689418130106591.
54778561077895825961237647 1.p89

41 98+ 2.29^2.7057.51941.3286442518717.22550075621233982641.
250152780868776059769 7.809122073590511536023603 41.p68

41 100+ 2.137.241.1801.6121.10313.391810481.110312844281.
234370420227297398931574601.p100

42 97- 41.389.24381429986184461.461905321249903914114 67.
107965027831860669909202225 1.c88 [Montgomery, p-1]

42 61+ 43.17863283569307161736407.p76

Update 1, Tables 42+ to 44+

42 73+ 43.439.14466235327009612050469.184837201641012157917566623.p67

42 80+ 97.193.14401.10043121927253601.5007945605667365550817.
232292767649845587478247497163 21.p53

42 82+ 5.353.81094229.131135713.456761729161352641728877 57.c89

42 83+ 43.475436710846639331916966372716 83.p102 [Montgomery, p-1]

42 93+ 43.1723.4093.33727567.804009677.1196618911.36645078004273990859.
226634051949035225389.468220924705254196024615396055310 1.p44

43 79- 2.3.7.317.5531.6637.81078518121351668623.
792637318897776211290 71.202893398835780609063412644 91.p47

43 85- 2.3.7.647.1871.302941.3500201.56770350869.3807926835707.
184537189559967875211 71.87041952219155048989901.p51

43 89- 2.3.7.179.38115923664687505891753.c119

43 97- 2.3.7.4657.31801792993.71062007093773.
5834938594675376449.180308142117187615242 1.p89

43 59+ 2^2.11.261475891589600534045902543 31.p67 [Montgomery, SNFS]

43 74+ 2.5^2.37^2.149.99901.571873.950934337.
359809068743671931272576225 7.p67 [Montgomery, p-1]

43 98+ 2.5^2.29.37.210113.297641.327517.22021301.
524679165318400169645235393827976 01.c97

43 99+ 2^2.11^2.13.23.67.109.139.397.1321.359063.3470039.57993427.
323084645463491298110593.546370207572762083152045 9.
911285680033119157086050677.p50

44 61- 43.384694061.27584350136044931407349996847520914344692 9.p49
[Sosnowski, MPQS]

44 67- 43.269.3217.1638692011329379.299522412766607399011109.p64

44 83- 43.167.3955048804740417253.26903824533771823904209.
232064176047748437960887531.75048842198470377644392568946943.p34

44 87- 7.43.283.5569.9803.44371.19147377833.115405672188757938511.
566488180079271622121771598 2079.p64

44 62+ 13.149.875121485834948794608564319951077325508 9.p59
[Montgomery, SNFS]

44 68+ 41.113.809.2528816564858441012283673.
111962133352732264471846900896 0761.p48 [Boender, PPMPQS]

44 88+ 17.241.3457.43649.243233.479777.991873.6634933537.
395612100929.1976143084961.90824251110626878591753 7.p59

Update 1, Tables 45- to 48-

45 59- 2^2.11.31271.277301.95043203662088698873 9.p65

45 67- 2^2.11.2614999599612154178059.106644144182167465567617 1.
13791419444700733840176757 1.p38

45 77- 2^2.11^2.29.71.89.4621.4124569.35571508524949.
222101449727389.64687804330310691163789.p59

45 89- 2^2.11.179.1069.169404559.767932051.66636889149731.
58188353240587145160260 11.884956208874375130677948833732 9.p54
[Montgomery, ECM]

45 88+ 2.17.2141569.27471841.494562511489.10261311099154483126999 69.p95

45 93+ 2.7.23.283.42409.655363379581.74999688216238523724061.
58931558307762420139014419513777627401.p72

46 59- 3^2.5.130981.564930745883083815362557.p68

46 61- 3^2.5.367.336084750778056693645113.p73

46 79- 3^2.5.1423.2030617.65834651.8432588956006810871491.p91

46 95- 3^2.5^2.191.915391.58970111.276082234861.3706109078315291.
18254961833120995439504011.869333244926326187979597262939.p58

46 93+ 19.47.109.311.4217.59707.391903.2119123858693091.
59269062276314317841959230 1.189307719543647060109630487 21.
26882805694269553531578915803.p35

46 94+ 29.73.2156623201.3671212028717.363925016054632301.
112810559107383355962517.313806317842016451257381.
67031923263169974273886 09.p43

47 67- 2.23.269.229409.72611395774462081.
21270964162538089013014983761851.p55

47 59+ 2^4.3.709.827.856835427135799290060168730827123041863 7.p52
[Montgomery, SNFS]

47 85+ 2^4.3.4778021.11048879.12760031.50246304977640328639.
68545359223301743931.701636310069543183082191578735172279894 1.p41

47 99+ 2^4.3^3.7.103.331.3691.389357.973459.132277876039.
9370321586592865273.1568665617454316058283.
85362742871735991058135703628 19.p61

48 53- 47.107.9013085165975591837557.p64

48 59- 47.52511.22658878366088640409054347305003 99.p60 [Montgomery, SNFS]

48 61- 47.6295979327493762037.331848447933624078238560499 1.p55

48 73- 47.292944651683.51577085552086923203.
64611316132364435155678 7.739396612198927320241489 19.p41

Update 1, Tables 48- to 51-

48 83- 47.167.27059.1219271.86355193.
1036025257.864083177447102585418536115 7.
20614187046333194205951817656525277868 3.p42

48 91- 47.71.313.1093.5279.883871.175926983.1250142349.
552210939047.181000403010816635719 3.p84

48 59+ 7^2.7789.369724681.94753032598293431536812 1.p62

48 64+ 4178138065001073344225291.17138436922925116360565760 1.p58

48 67+ 7^2.1239936656006667118209397.p87 [Montgomery, p-1]

48 68+ 137.5308417.2009818448165540225792 9.p84

48 76+ 132241.5308417.207097721.16341411017.39986966380937.
5404868180956712984378881.p60

48 77+ 7^3.3631.1711569511.17515852613887.61372621551821240431.
322459089695493448584029628246331462 3.p45

48 83+ 7^2.499.997.2231153209843.183893115800039602309.c100

48 88+ 17.113.881.132186737.14669068417.4464648416273.
141400590799541769810529198 9.p83 [Montgomery, p+1]

48 89+ 7^2.58741.615665543287.265620987707426380466137.p108

50 61- 7^2.2441.1339016086140839.815287727075024814767183.p60

50 77- 7^3.23.991.9241.73679.59337433.2277696793.297842950080182981049577.
153401343485638153344674564056132867 1.p39

50 85- 7^2.137.7481.6377551.20968481.43339993937.16225824203761.
262231331604679.25338032273743655164018771454965573814119 1.p43

50 99- 7^2.23.199.991.1783.2551.73679.79399.59337433.66802033.15625125001.
3373772242039.41469060507073.77148921314064477415231.p69

50 71+ 3.17.22721.43434716570537.12112473003064913460563.p79

50 91+ 3.17.6091.23297.31643.2219491.2514961.4381982190587.7564186515866657.
188005813195797592877 1.74854275288348347185253337285536 3.p43

50 95+ 3.11.17.457.571.3307.160817.557041.
15387836214379711097.3628623746337826619788 1.c98

50 96+ 641.1153.3491200714753.255775794274527295827073.
367741123007653820679611686528008 7.
902356153132180389917213293605712129.p51

51 79- 2.5^2.317.159865212423677.8667843515302747948661.
446434693648485696444191726361 9.p63 [Montgomery, ECM]

Update 1, Tables 51- to 54-

51 93- 2.5^2.7.373.379.1303.16741.22073.
15284179.13500481538706912326593219339.
3573701539999612422562206333151480554239.p65

51 99- 2.5^2.7.199.379.61395401.1977725861.17596420453.127921310235379.
108608477363132635219.4195580121064479897289.p79

51 74+ 2.149.1301.5883593.10160439842909796023929.c92

51 79+ 2^2.13.279187.9337347626233495645144409.p103

51 98+ 2.1301.1373.78172361.172931389.2690698193.
3959332221041.175382600903614882429793.c100

52 79- 3.17.8329129.1739831063.124636234831214061799.
97295604104590115319212 23.395909555076878787009316423.p47

52 85- 3.17^2.311.6971.23971.61507.5367751.164744893257491.
399777287281405829.10177443707650976797583938 1.p63

52 53+ 53^2.1811940150689264228992220204156 27.p56 [Montgomery, SNFS]

52 58+ 5.233.349.541.5801.42689.3178144278917972031397878529951014 1.p49

52 76+ 89.82153.4669171230457167474677 29.p100

53 59- 2^2.13.9439701148673622477594 43.1246652628078396111538110 7.p51
[Boender, PPMPQS]
53 71- 2^2.13.10678380600960362055049844196615 7.p89 [Montgomery, p+1]

53 73- 2^2.13.293.15900493483923389125171.p100

53 59+ 2.3^3.36109.9297103.380020241034589434792741 7.
2188567199446100149372669316379 7.p33

53 62+ 2.5.281.92440192126938595012573.
935100803836411462981123312851008652 53.p43

53 82+ 2.5.281.1754675971393.1697801594239406192321.p105

53 96+ 2.193.93297618587882497.32835259598622638465873 93.
5127247556880055622590849.2288007150328269593943818504897.p67

53 98+ 2.5.113.281.6469.8821.163661.96764229776378081.4345876805521190969.
4031498042425101730301.17542382505879886894289.p72

54 59- 53.4013.105786647.3107096944460816323298986967.p62

54 61- 53.4637.32904029059528723344352074697.p72

54 67- 53.269.106517687723052678547.10504450094194375457687964 71.p65

54 99- 19^2.23.53.67.811.2971.84691.9422227.762902713.9339586579414037.
6156213440537633519377.8535247170603698524570 81.p76

Update 1, Tables 54+ to 56+

54 52+ 8503057.55919217012841299822887 53.p59

54 56+ 17.113.14593.291444977.1811964789540354449445906216548116256 81.p43

54 62+ 2917.4458230758773551238806221.p80

54 80+ 28961.343489.3024737.3790433.1327427713.
161019141207591521.5994536046495833388554881.p65

54 92+ 8503057.127138398069217.223004774901752741561.
9488128373728604761433849.p94

55 79- 2.3^3.65390411266245619112083669.c110

55 95- 2.3^3.211.571.647.44171.180311.18145951.1100748661.
7003229692931.3222383446162535363.5189244107146937791.
6188102018723802695847391561.p52

55 99- 2.3^5.13.19.23.67.73.79.463.118603.409267.6652441.40420381.
83050969.684322521301.24226294794769.44322821478541.
515380816883043913429.1126119570774961831014214360849 69.p33

55 53+ 2^3.7.107.40387.158644309413738837889020976068628 87.p50

55 68+ 2.41.137.409.29921.111593.3179977156744880801.p84

55 74+ 2.17.89.149.76961.353893435429.92731355506044946981341 01.
14633079494316847154661220961419485 7.p47

55 85+ 2^3.7.9419.8987221.9935311.2737667946491.731093457576076242351059.
42469093750668569741228130565031 11.p59 [Montgomery, ECM]

55 87+ 2^3.7.59.2971.4583.185137.183097130989.
267862906957.57564314616079720752730650 1.
18379424785609680810740070309607.p55 [Montgomery, ECM]

55 100+ 2.41.401.1801.111593.4485234541681.1563211806048721.
8345850723306601.95021874303431401.660117653270710430147201.p77

56 53- 5.11.107.9011.204093477865164700124289001479516438 1.p49

56 79- 5.11.5531.13709977.3274232553511.
97677070602539.77086679597668061819.p80

56 97- 5.11.402940429633574331792874 69.6100486770067279068883093021.p115

56 99- 5.11^2.31.67.103.199.2663.7723.30841155073.57914451739.
103372829011.10542455001277.13045372096150426269073.
20253459833663799903733.20967659705735466509413.p44

56 64+ 461386369.2215526385443140481.
11209712234803590913057126456734347584934 41.p43

Update 1, Tables 56+ to 58+

56 74+ 149.3137.49876297.1552048621.1849954152780169681337.p86

56 83+ 3.19.4483.16198400300755689379579.c118

56 86+ 1033.3137.296518196858312552166810677.p118

56 91+ 3.19.157.911.5227.15737.28393.1925393.1138721034165079.
91547827373092063835 69.4807908306206412790819 9.p74

56 93+ 3^2.13.19.79.2538157.991072699096717.584811973322971575660660 19.
10800292046938016842013532724813231590022178893.p65

56 96+ 3329.4289.88321.192961.12324161.112790017.
478998073521217.3433562120626713 7.9204182701393835713.
232559086557407467762901333407938321409.p47

57 61- 2^3.7.8297.275599.45410285237203413372260007 7.p70

57 85- 2^3.7.41.71.2551.3691.4931.318436803674534765469421.
126381795020961995216949780 01.p82

57 59+ 2.29.2243.27967.427076792183.15968939304852785047310834984020 51.p50

57 61+ 2.29.977.431898667.3519003390903618764755673.
205002128155608713461282844 71.p41

57 78+ 2.5^3.13^2.577.1301.18289.421774848457.
193892745203299008515581193.473828132744064133969715982253.p55

57 88+ 2.17.769.3361.1268017.4443926186627307609853361.c116

57 96+ 2.193.2753.144961.228929.247553.2562959486619658177.
159452332908596307521.195688992282395942401.
309855558826630979872 1.p67

57 98+ 2.5^3.13.113.197.3613.33371436584977.
2880170603124053.19522006634428762789109.c110

58 71- 3.19.12121973.1028171591.32562234989.91551995051796931943293.
95085985158747661769992579201260241.p39

58 79- 3.19.8059.181378493467736388058632 8633.c107

58 91- 3.19.211.313.10986067.183585613.8889251160791.1212370332055146811.
4711342997396831407.126415678477358581218727.p66

58 93- 3^2.7.19.163.1117.16493.1594951.109960597.32365401511.4386278573077.
106644259178537.802184537927239.75701865042739143157590250368211.p54

58 61+ 59.3295264409.7192041338831.
82283126277816266983540643657458661879089.p43

58 62+ 5.373.673.1061074599281.249371498676153979530497.
96461706810785620008606722079837 7.p35

Update 1, Tables 58+ to 60-

58 67+ 59.4423.11927.16508181083213.264147380958609467499443.p73

58 73+ 59.293.11773707677440648014056551.p100

58 74+ 5.149.673.1977434348109526529.19469841499343565027595314917.p79
[Montgomery, p+1]

58 81+ 37.59.1009.3307.26407.1019701.1567837.154323841033.
357495730946887939129.536644200621524414731489.p61

58 82+ 5.673.451413146924684437.19091233489460737861.
65982689457049617692092 33.68367810072444900908612772708440 81.p46

58 83+ 59.4257948084391.25040231924905264883.391207641578723500693.p92

58 88+ 17.2507800241.76138295377.1824260537089.7533122454001.
156998023470731873.14759380195279967414944129.
62057338333442627487392257.p41 [Boender, PPMPQS]

58 96+ 193.449.1153.1169473.142003009.19166983681.
24779314612061953.1078686229606297409.22411195734132103169.
21447478665303915002497.24431244144340601933819 53.p37

58 99+ 37.59.67.1009.3307.32077.93941.1019701.2168893.2366629.
19837621.215363413.67286189741.370407316388289387307.
10924686900226761218173.p66

59 83- 2.29.1163.34031.1150206683760653789705431999.p111

59 85- 2.11.29.41.137.151.181.443.1871.2381.361353204962363828785531.
319931738273759472613857871 1.19205218363419571738281287595933768 1.p44
[Boender, PPMPQS]

59 89- 2.29.179.6284491657091.22081571409593.972952819169180091071.
157604971336718305845 1.26899414244883480238486498083 89.p55

59 53+ 2^2.3.5.107.80228189097432610647753188426631403 67.p54
[Montgomery, SNFS]

59 62+ 2.1741.17782728218837.13494230716102089497969.p71

59 64+ 2.257.1409.1202561.4574180655836929.
11196855779275980405078323 3.2947525805842287183836253760 1.p32

59 68+ 2.17^2.409.593.601.6257.87721.218775313.6387105089.
592889059371965032485521.p59

59 90+ 2.13.37.61.1741.8101.64921.695581.931837.8117401.17687953.18083161.
2718597042181.7828781701952161.3281192688853320280028766 1.p56

60 59- 59^2.18438666190697.1642560494264836167317 3.p66

60 61- 59.7687.2097977386627105468824 1.p81

60 93- 7.59.523.45943.544919.15159311.1021987913.
43936251520677021083041.266305157253275184960278016539 33.p80

Update 1, Tables 60- to 62-

60 95- 11.59.191.229.419.5701.1198151.630359771.3978405096481.
64556007798559201.18089370365684981366396263l.
10763964092733349596342342l1.p58

60 61+ 61^2.22742387.10390526675170048019296473 83.
23725002110083330032229443 01.p44

60 62+ 13.277.205345690403737102561.10306661358767180409153 73.p63

60 64+ 769.7937.2998657.1861390422206123777.510074661605448557441.p62

60 68+ 17^2.281.2713.80159131586592971777.25316340388412815172453873.p68

60 77+ 23.61.199.5839.6955411.7859419.129943035204533.
569120982289111615515 47.28326240214010151734543185302263.p46

60 84+ 17.281.2713.8233.80449.2087802049.4527011833.14864600138249.
70414988866482578753.52164017845555438512279914287761 9913.p46

61 77- 2^2.3.5.199.859.2209747.52379047267.4242586390571.
3961245677218061.274716561670738992113.536231864510166445391.p45

61 56+ 2.17.2017.12401.454677073.49612704073664599841.p63

61 58+ 2.349.1861.2089.340577.7437797981114066511760667466892440929 6393.p48
[Montgomery, SNFS]

61 64+ 2.257.641.635460808229535772106113.p85

61 68+ 2.409.6922921.1117521521.517003551730740124849.
32489476451994002012646170985629171047873.p42

61 76+ 2.761.6922921.81808851457.24921518840870416053329.p93

61 77+ 2.23.31.331.2179.254735251.42308091563.50689400581.
99378115904791571.24867482590192021386415077272877858 7.p47

61 78+ 2.53.157.1861.13842121.10453747245774064033860467910242044773 7.
13289953820849332427804186683936870521895 7.p46

61 80+ 2.14593.436801.13483201.93392020920424417.
477302672608932495361.588894575109458165761.p68

61 86+ 2.173.1033.1549.1861.744327119102324603336237.c118

61 96+ 2.193.2689.4801.3853313.8346049.20653663489.30458644417.
1375331651522671169.152687002417950428241375 37.
32237809504004235157528971453329857.p50

61 98+ 2.29.1373.1861.3529.67667377.383188373.
14772114406812806149.20684950677229314209153477.c103

62 59- 61.175939.416346224106125980339.p79

Update 1, Tables 62- to 65+

62 83- 61.167.13917773.50847633637.896693202481.3147670338047876848577.
45980139022360945530 23.37625952989032573239059.p50

62 89- 61.1069.113209.131990533381441751457703 49.
34102285437085082217185 1671.39168982657475142560355600798 91.
14787347055415598644147515432551.p37
[Montgomery, ECM; Boender, PPMPQS]

62 67+ 3^2.7.2381818961188746315024465 07.p92

62 76+ 761.1217.19417.222685736740348949017.c106

62 73+ 3^2.7.86752070770418407.65432313506671795111.
36660801173465309648161 43.p68

62 77+ 3^2.7^2.29.617.446293.825977153711699903.
194457030112653107153 3.126123293359028073920568834 01.p59

62 81+ 3^6.7.13.37.97.2269.225523.417961.44723293315793981214013.
92241353650483865615059 9.610842373870098830152418991310 51.p45

63 81- 2.19.31.37.109.7759.32563.424117.4045709593.
24441614509104302818778 9946569153.
26907892848201835343829081066780352113 19.p44

63 87- 2.31.37.59.109.233.2257684668341.6234157146631867.
98320012313450183689981.13466563023161590903511451 79.
78815752837667676887708 37925803503.p35

63 95- 2.31.6271.6841.16007041.7276280816848801.34132594278730273.
189909884456431980821.c102

63 59+ 2^6.4957.15714233391032039935117.p79

63 61+ 2^6.121921140573675260771.11175088171868851962194339.p63

63 78+ 2.5.13^2.157.193.397.1613.6277.
24308642775715230733678012161456820416 01.
94717322252678413180294690618518677717 81.p44 [Denny, MPQS]

63 79+ 2^6.5531.309523.650969323.820243275110700598907.
16569550894907480490774378 1387.21576373533423090354147112545074 71.p39
[Montgomery, ECM; Boender, PPMPQS]

63 85+ 2^6.11.137.443.701.2011.254033013499721.998815040186013059391691.
35913232029854139393168 91.45070574721020948041235981.p51

65 58+ 2.349.2113.10202099527368853701895315603 7.p70 [Montgomery, SNFS]

65 64+ 2.30863740016306897121642241128340 49.p83 [Montgomery, ECM]

65 78+ 2.53.157.2113.433681.17846401.411649760653.
21774289614406929996917.39258748896911182436569 3.p64

65 79+ 2.3.11.45233189.312940520202413780726963.c111

Update 1, Tables 66- to 68-

66 67- 5.13.269.19163.262751771813.280398855775900743919.p82

66 81- 5.13.19.109.433.487.541.4423.5563.39910303.
13329319933.32507878377259.576011454061449347819497.
39309783697839329997528684405172591.p38

66 53+ 67.107.1061.41558467.4184407992037056944231.
38628841569152224765408183.p35

66 59+ 67.516959.164451747019380488953100457686 9.p70 [Montgomery, SNFS]

66 73+ 67.51977.5641434022284215528209.p105

67 67- 2.3.11.269.4021.730837.10960933.
151495488509660402356228791573004 9.p69

67 91- 2.3.11.79.157.5279.175897.522061.313053662923.126867415853933.
12114022825626067378406 93.128951795688463746180899087 29.p68

67 99- 2.3^3.7^2.11^2.31.89.397.19801.1658053.30152894311.
203710056661.1890149702927663.25881410068524979.
126467431119400579891.25152082142062851212549519326414 69.p52

67 58+ 2.5.449.1973.475429302637.131768881218084245002085505137.p59
[Arjen Lenstra, PPMPQS]

67 59+ 2^2.17.58057.245715671929457.280208291644649358022424061 19.
28402548066325733698407160691.p30 [Boender, PPMPQS]

67 76+ 2.937.10753.31769.1408889.4499809.111358697.251237060797388605801.
31561821602784848683430107844577429025451 3.p45 [Boender, PPMPQS]

67 81+ 2^2.17.19.37.163.4423.31159.215893.128674369.
12256396849.419361622219.8977627086301.
54977338966483541273621004824942193321511.p45

67 98+ 2.5.197.449.4201.371617.624541.3118080052837.
2469255772339392031213.10279578282652478747427593.p100

67 99+ 2^2.17.19.23.37.199.2179.4423.10891.231859.1011583.
128674369.1239598499009707.78088320271718681.
705909673097573677393.22549044987192939329269.p67

67 100+ 2.41.281.937.2281.10753.53401.5022387641.1249312628801.
1849012040801206840001.5176599507834311142642 01.c97

68 47- 67.532420380710380271214511372540831.p52 [Brent & Keller, ECM]

68 61- 67.160658284528707555370692951932029 7.p77 [Montgomery, ECM]

68 67- 67^2.2939291.1048921527777202484633.p92

68 95- 67.191.457.3041.54721.85577.10485721.21700501.11262858773345981.
13504583962441789501.25079639001129379803320837.p80

Update 1, Tables 68+ to 71-

68 58+ 5^3.37.2876650193550608549.5311227911558383576426867436 81.p55

68 67+ 3.23.416075897.1813394616463470622032961.p89

68 68+ 41.521497.56170993.13867852023937.14691746818289338236289.
9625115733670717754307586206809489.p41

68 87+ 3^2.7^2.23.31.15661.91757.19075122136237.306249709725017.
3771118783001168489041.45748303815508077621739269 89.p68

68 89+ 3.23.599149.35877266507.1118083891596247.
55857695968238948524814197.p105

68 93+ 3^2.7^2.23.31^2.311.1303.13331.3981517.8664498426445342506211.
22454536024073589014269237104903706392217755851 77.p77

68 96+ 193.8641.8886721.39878593.52508646185194976897.
29010869195383479081068390 41.10808296483436666487345971020 9.p79

69 77- 2^2.17.419.1453.3037.3109.9241.35069.38281.35221999.
3339035393.764610466765038795225099698045 3.p66 [Montgomery, ECM]

69 64+ 2.2488226819470849.11828196661731412748033.
3854362195853744985024 1.p58

69 87- 2^2.17.1103.3307.4831.199289.6678701.28327259.159286793.
4709551555924750069 49.12320642973514744834885 03.p76

69 71+ 2.5.7.2131.12781.17609.13093271044107203.4257929443236536737.
15405958032914724487571.37328284471728267674995 8779.p34

70 53- 3.23.8065270482236460090947.p75

70 81- 3^5.23.37.1657.3889.4861.1059903991.589047714789665319655161571.
13957432055459407219967489 5003.p69

70 97- 3.23.1769863.20955906313967.
438112486007625823.43179374901768608243159.c118

70 62+ 13^2.29.1101129053.391039294057.9212716042709470834939 7.
32884367277133123825982 51701998253.p34

70 67+ 71.197651.458683.1018451856790517.12473243917602506621881 99.p72

70 87+ 59.71.349.4831.7019.8361843239.
43391657925824287000491 0217.56476537654063551106920429541.
13096508711157705779106720005381302 49.p46
[Montgomery, p-1; Boender, PPMPQS]

71 77- 2.5.7^2.23.883.3697.22639.21020917.1125438469.143554218709131407.
69028618176672901927291084422049801 21.p58 [Dubner, p-1]

71 83- 2.5.7.12451.3579429715865569.38115878606127128603063.p110

Update 1, Tables 71- to 73+

71 89- 2.5.7.53669137.1293644801117.971048012563753719841.c123

71 91- 2.5.7^2.883.911.1636363.21020917.886835041.3202878953.
5196608121641.3882322774998252313.2788791938736320647275 7.p75

71 59+ 2^3.3^2.27118879.900779405751911261.78993160358022469676832549127.p54

71 80+ 2.641.190404353.290886721.92521929281.433220107361.
1095031748345506649537.74354768832647065887790639010396 2081.p49

71 81+ 2^3.3^6.19.73.109.1657.2917.26947.198127.282439.522877001113.
49730068812216907.1378903293257063797947 7.
131084546677759833505592566380078 7.p36 [Montgomery, ECM & p-1]

71 94+ 2.2521.143257.428032009.42595882510121864474095 97.p132

72 53+ 73.107.5329416315673.208807002421134351454687665963420115403.p44

72 65+ 11.41.73.131.521.547.23011.46307.58771.32842040219.
3986543610931142572139041599746832572568 1.p44

72 93+ 73.3163.5113.5277008419.1248843522994363.530774554140493441461225 1.
414454160337256200144421327740700780397 71.p74

72 95+ 11.41.73.2243.58771.885971.273547768779311555491.
1188954673932515847876989341331.p108

72 97+ 73.3881.218168005786123.89268137546412403.
781429666482717601.2058215880562955759799353.p102

73 81- 2^3.3^6.19.109.181.1801.20359.5845771.14668471.13909795579.
37427131197853489.2009977828902371214483211.p70

73 85- 2^3.3^2.137.1021.71741.28792661.155072369.909139159.
34140570383.12967740568396231.14722734308685531840841.
192505925585700345558607 61.p48 [Montgomery, ECM & p+1]

73 95- 2^3.3^2.2851.3041.15581.48527.67679.28792661.555221041.
1563996781.1141839571451.10699524295628905728908 11.
22698013460334370106164771.p68

73 58+ 2.5.13.41.144396851674547784291823 6813.
19788736375368452459770083706049791973.p40 [Boender, PPMPQS]

73 61+ 2.37.50387.289954641019880677.932700571021098638040617.p66

73 64+ 2.20353.19076619727317467194441217.c90

73 65+ 2.11.37.131.5669.19441.2644669.29055911.1506911267681.
24838018165042116509355114 1.10201177131938982968764170 91.p29

73 67+ 2.37.269.5897.20771.9637951.251409461.199263416662169.
45178000913938437240525503864 09.p53

Update 1, Tables 73+ to 75+

73 73+ 2.37.459636916558529111235282963785233915709014470880783267 7.p80
[Huizing, SNFS]

73 82+ 2.5.13.41^2.193357.229673309.34042076797.
11286185289777638361749216221.p96

73 86+ 2.5.13.41.4129.13933.18061.2753549.
8070929.7386946497137444546453.p110

73 94+ 2.5.13.41.5077.8273.12186913.2376784513409.
435534443943920522904037.c121

74 47- 73.27699458426667769672995217.p61

74 87- 7.13.59.61.73.233.17401.22853.
4736801615289553951.10739323591982963442124501.
40427012872135449675860967122923038889 61.p61

74 91- 29.73.1093.58787.22380359.555596887.5739858419.
45010053661.6569223442084213.4579928703662243152366 7.
630045464973369109978612017864 7.p54 [Boender, PPMPQS]

74 95- 73.761.8627.304457.30397351.30852961.59168348971.
557808517889906238725941.17088110866617666363859 09.p90

74 53+ 3.5^2.107.6023557.232802779888669898296036822567 7.p59

74 56+ 17.113.4481.69233.170497.378799428782212012296401.
43716837258078241397374449 7.p38 [Montgomery, MPQS & ECM]

74 68+ 462401.29986577.89799169.10708455804222304455098515910 41.p76
[Montgomery, ECM]

74 79+ 3.5^2.61918147.2146245736890394393893313.p114

74 91+ 3.5^2.953.1009.168491.94842747662501021.
575179649309204419481.2660425446370850738416 3.c97

75 53- 2.37.107.18030279714813727590084874539683.p65

75 89- 2.37.179.712923109.26734565669740573924433197.p129 [Dubner, p-1]

75 93- 2.37.373.5701.12277.2296729.18938149.63741651301.
64151975518370241199249399 3.4019738248862241182752544455438737 13.p76

75 53+ 2^2.19.97887442243824065717513399797721590364229978 61.p52
[Montgomery, SNFS]

75 58+ 2.29^2.97.1277.792049.3939121349307448659023958685483192183 3.p57
[Montgomery, SNFS]

75 59+ 2^2.19.49757179.35324501903585084972584 3.p78

75 64+ 2.224914177.6879903878651231938882135092556 9.
151113908786421917036806943723393.p48
[Boender, PPMPQS; Montgomery, ECM]

Update 1, Tables 75+ to 77-

75 71+ 2^2.19.46565209.39275484368822788526017.c101 [Dubner, p-1]

75 85+ 2^2.19.1327.1531.10711.7814119.29078671.31224301.
7776741223.12265331599.1240960890576268730161.p85

75 89+ 2^2.19.1069.8663311077317900433187.63815630565875176607863 87.p116

75 91+ 2^2.19.43^2.2731.6007.16381.132523.94990099.3220769917.
39267562275241.1783356364526257487967 1.c96

75 93+ 2^2.7.13.19.61.1117.85933.599479.929629.10079341.
4037825845717.11761353438989893.333382826990855524948 9.
3038549485165407518876080467709939 69.p57

76 53- 3.5^2.107.5552138646978793697.787248884237115209242200157393 1.p47

76 93- 3^2.5^2.683.1951.6252019.8972965400127301.
42579210885873430410010 99.702721290003650055368049434615 3.c89

76 97- 3.5^2.389.61431847.2773051909.14457328939358853241.
79951814406106143652529 5079.c115 [Dubner, p-1]

76 52+ 17.569.3449.263537.2356447026985918534512 1.p63

76 53+ 7.11.1061.1410440437267.332507171426341041442847.p60

76 56+ 113.241.337.1341217.3443441.
48686995688172205928909204609643275865 29.p47

76 59+ 7.11.709.16993.179243.533712478627.
47158681507470443124014001967222209248 9.p47

76 61+ 7.11.1145093.7401497.697153507.722450352147423876928294478 9.p64

76 64+ 3329.632502515329.26989952536738183783635329.p80

76 65+ 7.11.131.128389.32928901.285468477137495809.
68469727581854208669905431 31.p61

76 71+ 7.11.22721.25561.1838191.2623451.92437763271359374690583.c88

76 96+ 193.769.19346177.48211314087558529.16121357879301096794131 3.
41103848586338995424992613510427872291027201534265 7.p78

77 67- 2^2.19.204887.7827343.726543441701070084438822 49.c87

77 89- 2^2.19.179.121662931852937084609.126485886119896947189521.c121

77 91- 2^2.19.53.757.911.1249.47861659.278949511.13891200467.
1365056329785331093.96374551604466041039224 1.c91

77 95- 2^2.19^2.191.4637.66083.388133.35615581.2436403172761391.
3141018192118591.469273734201834941.405928149967513771 1.
125420004078519756701761112158171 1.p52

Update 1, Tables 77+ to 79-

77 53+ 2.3.13.107.36677.859746631057432071136297 33.
850810181645068997565822784343 9.p35 [Boender, PPMPQS]

77 56+ 2.337.449.2689.5233.262965473.10121506988785763219446577 93.p58

77 67+ 2.3.13.38861.81295354829058924783697429159 19.p90

77 77+ 2.3.13.5413.20063.10255211.1336181169712841.209901342080016148409.p93

77 78+ 2.5.157.593.829.2393.26417.26573.42397.2366053.7765837.
144626910195417124541228033.67355722098906575755356654353233.p51

77 81+ 2.3^5.13.37.1567.1951.21601.348949.1198261.3303829.
74550727.1625573233.263513947859528941.
22210911482889673882434 7.309193135087604144905965702 7.p34

77 98+ 2.5.29.197.593.5461289.1392053978561.
1141997132127045448409.54695004239790005421793.c115

78 71- 7.11.1279.119608589.16914250382532342187651.
30583750282576688740470057 4819.p70 [Montgomery, ECM]

78 87- 7.11.59.523.1451.6163.10093.11833.64381.2629967778089.
2970136500712302512053.5570703518997373582 1819.
208432417719556926180781.p59

78 95- 7.11.31.41.191.29501.25131669779.71888587949.6403618168573.
11150540511160592856932292 91.c107

78 80+ 97.274081.19949249.483587969.16814078881.
2006041300321.2141900414789922435841.p85

78 87+ 79.349.6007.167911.116183250585011.158700668002654067886475189.
48182986551883972861043189489468 51.p78

78 94+ 5.1217.8273.781010093.11635877309726430857.
25655365976898116357.30565409510519482117.p104

78 96+ 193.577.24645865729.8300601922966849.4539080612444648899393.
61073312078187889208175944513694986126159587066596442147 21.p71

78 99+ 19.37.67.79.163.199.397.6007.9439.21011.68311.1965277.1968401734883.
3063044826024596717041.111281466031115101977659947417843.
62081904902590017085970913884646574732 03.p45

79 61- 2.3.13.1470088206121531.516541482119919120251389011 29.
84880272831679697323347713993006 77.p37 [Boender, PPMPQS]

79 71- 2.3.13.3334860272717.17819939508359.
55061768623379715431630488283.p79 [Montgomery, p+1]

79 79- 2.3.13.317.1558537597.171355071830508389477.
54493132908043378263202913.p91 [Wagstaff, ECM]

Update 1, Tables 79+ to 82+

79 61+ 2^4.5.101265247.19988054291981.406339795899166982883366l.
11963573944618506433544532669065 83.p35 [Boender, PPMPQS]

79 62+ 2.3121.1553465677.72788832917566660513.
40356163051214884879485693081341933153 3.p47

79 64+ 2.257.1153.19841.1120001.2154881.34208273921.
21538656983951854914071411 3.463275331474772530343282035 3.p35

79 70+ 2.29.1601.3121.152641.6207041.291081421.2037311871464044411349.
14761517080562522712551752655885537901376 1.p42

79 80+ 2.1021793.25442332411138694561.
396144390380137134275041.11262648800178225138621 77.p79

79 86+ 2.173.3121.410393.668221.1830253.154770761.
20958563609.29736112673.105972000877474558577693.c88

79 91+ 2^4.5.131.313.547.6343.37844689.912422057.222311290358977.
282849240792301.1423136530102144391.26775158568578013941896931 3.p70

80 79- 79^2.181113265579.19718355996915670794271102298426 9.c103
[Montgomery, ECM]

80 58+ 37.173.121941637.48895060432213.
58740753178054561729269305647493275533296 9.p44

80 61+ 3^4.102481.5320657002569.709266127629326324062557357 49.p68

80 62+ 37.173.1489.1613.8427213701681.61871704368094663869508095568493.p64
[Montgomery, ECM]

80 65+ 3^4.521.1301.40454321.67871088134320987654321.
34168716749191586995287428012 41.p55

80 93+ 3^5.7^2.43.683.132247.4464317552407.344300248085770063.
13666508095430041551560634 1.51993198921130983194755138721070571 49.p71

80 99+ 3^6.7^2.23.43.67.4423.8867.2625479407.87381162667.270688839961.
51999634801181.1455230640830802919381.11564342931017754814266 1.
11935171798229644025656192643827.p51 [Boender, PPMPQS]

80 100+ 1201.2081.23293201.40960001.765229481571856001.
11262237813143399808671 21.31611307638369813222834001.c102

82 61- 3^4.539466825906912102863.970273800975810198793 3.p73
[Dubner, p-1; Montgomery, ECM]

82 81- 3^8.19.2269.2593.5347.19927.40357.132157.1956961.3576360169.
131414993533098799813.3575689551585164000764563144607.p59
[Montgomery, ECM]

82 83- 3^4.331337.95736019.27018958129.1945606940604200995787.c112

82 47+ 83.361090123148774568587925298323 7.p58

82 52+ 313.45212177.7848266615855338102572684881.p62

Update 1, Tables 82+ to 83+

82 59+ 83.12037.5003349305691009047543.p86

82 61+ 83.1373272557803015990137.c94

82 65+ 53.83.131.157.191.233861.585391.899159.
12203656388509.2338704163672318171.p65

82 68+ 137.7481.45212177.1470978687089.3065499403698317751553.
924185537858056695686259560184340463 8609.p43 [Boender, PPMPQS]

82 74+ 5^2.269.28819681981150503547806 49.c114

82 89+ 83.14319211.190868539949375144246211 3629.p134

82 91+ 43.53.83.157.38669.180629.899159.12203656388509.
655104582523896687 1.16582022129542741900757.c97

82 93+ 7.13.73.83.5209.455547823729.182157665915263.17889333238011394700041.
140832821022767145826557853442899872361194 61.p78

83 53- 2.41.107.122289375418709568321774 77.p73

83 71- 2.41.853.10212125386042418786383.p110

83 83- 2.41.2657.11155201.100850570760132334915676948 9.p120 [Wagstaff, ECM]

83 53+ 2^2.3.7.1061.22213946063586852089592167893179761 9.p62
[Montgomery, SNFS]
83 56+ 2.10289.13553.16001.6840289.54688585170630287215029789118 73.p58
[Montgomery, SNFS]
83 58+ 2.5.13.53.1514033.91115953886988263631638237.p76

83 64+ 2.4481.9601.418006605129272833.10566898200188433869569.
157005708357848517121017735788460161.p41

83 69+ 2^2.3^2.7.277.691.1289.2269.14868719.
123740629183355101341553615847.126653334448131207592861199712 7.p52

83 71+ 2^2.3.7.3543183809806621.48386572774554953092559.c97
[Montgomery, p+1]
83 79+ 2^2.3.7.317.8849.5648659.
438059909707819135381.865867692801688791317.p95 [Dubner, p-1]

83 90+ 2.5^2.13.53.181.241.613.2161.4861.20809.10417501.47451433.
3877668305389.450393067843421.433081718598759804315834 1.
270213819618398588401481604071775331921.p45

83 91+ 2^2.3.7^2.113.197.911.2731.2073121.2820403.37447665332413207.
449855879732140337.42306950549344594342064424 51.p88

83 93+ 2^2.3^2.7.2269.119971.307158218997877404253.
238596223390252661314081.72388140050381165483874 91.
221879191128785139779631347760509508857893.p58 [Boender, PPMPQS]

Update 1, Tables 84- to 85-

84 53- 83.6888270050151991.5979171479206462155253903050422952187476 47.p43

84 69- 37.47.83.193.277.88873.20411397948205858222339.
1839144925067466051768606 7.188798273967938722452655302395594 3.p38

84 85- 83.101.3061.498881.41323091.3202754101.2193859673250534781.
5244714676004808500014071100291.6218272796370530483675222621221.p54

84 87- 37.59.83.193.993367.17029966233667.7712615417181253823791.
7637573539069506719244290428912368532 37.
2904043752413366850400636076474517615769.p41 [Boender, PPMPQS]

84 93- 37.83.193.1117.190993075212913.
362239718191301029.7251855431903862770502 1.
2835059344355810012167320270761871480648 2677.p72

84 95- 83.101.498881.2078753.27643481.20436490956722362771.
4983787728827217871990 81.2110694866162091556467380723 7.c89

84 53+ 5.17.107.88874399854793717.847470140789797092110542481.p55

84 65+ 5^2.11.17.271.3301.121958421052367004564733.
4218672807083994812442292 1.3552277153355420913454596146190 71.p35

84 71+ 5.17.15837119.6499874486385417337237.1400442648963873478350251.
1331841060445706466202340969564 23.p50 [Boender, PPMPQS]

84 77+ 5.17.23.347165113597.751493770656900107.217749291259749458749.c96

84 80+ 414977.816769.29916001.42887777.422680067617.
312677776854788321.3863155405893570253844 81.p75

84 82+ 7057.5104876734569.29071871041325883973.30004602959586575909.p103

84 85+ 5^2.11.17^2.271.3301.8501.154464856831283612127973308 91.
3571741467811446575398224758 21.c92 [Dubner, p-1]

84 88+ 673.15137.40045457761.3683148456289.157759434072769.
4154722687345424972 9.5463069352819733200576298 41.
5198715286685146590917094257.p51

84 90+ 13.41.61.181.2381.4357.7057.2058841.3829237.416197681.
2832460569587441761 3.9534996112224060025839786 3301.
6145116522379702609676302584721.p55

84 95+ 5^2.11.17.191.271.3301.20939.3426119.27969901.
52762051.59261698224389.6757400716814714663403271.p107

84 96+ 449.45121.2936890241.15398245441.256264545281.
866886861130177.319670343495409537.2856100170514349249.
4689996480918894175489.2035093048692257081864341495489.p44
[Montgomery, ECM]

85 53- 2^2.3.7.107.8203033181339714647300481760400492096456022986 07.p51
[Montgomery, SNFS]

Update 1, Tables 85- to 86+

85 61- 2^2.3.7.1709.959138381.21208648252153.
20443050960147039445184005 67.p63

85 65- 2^2.3.7.17291.52822061.8324279184997583471.
463119024032508093656641365 1.p65 [Montgomery, SNFS]

85 73- 2^2.3.7.10771589.647261707763917.478514681375515340527.
392836124647246761540329.1194525089882811376960694632 1.p45
[Boender, PPMPQS]

85 77- 2^2.3.7^2.23.331.134443.191071.2546237.13695512557.
54519912973.95748702960652214449439.p82

85 49+ 2.43.113.3298796957.375876428537647442083692187333500336247 1.p42

85 58+ 2.1973.3613.107881.10800749343742479792389.
434454022393625580902321888458684 1.p45 [Boender, PPMPQS]

85 68+ 2.41.137.337.1889.112463189495079464112820843636795 13.p88
[Montgomery, p-1]

85 84+ 2.41.337.673.1873.1889.14449.217489.6689233.61807441154215373401.
486405391922154778302937.417853034519604425165658163094593.p56
[Montgomery, ECM]

85 91+ 2.43.113.873419.942709.3298796957.170744724671.
581215725762627104008513113 47.c111

85 99+ 2.37.43.67.89.193.199.397.419.1607.1783.4159.127579.
949997233.1631686607.61669088713.699929929521261548351551.
458778794854196856772436051063 77.p75 [Montgomery, p-1]

86 53- 5.17.107.624972571744786740194742472600714 39.p64 [Montgomery, SNFS]

86 77- 5.17.379.463.617.24179.761531.
1080018073.198397549967.22390512687494871811.
135497890432087828757018337065183642667872453.p45 [Sosnowski, MPQS]

86 56+ 113.61057.149921.326881.583114533685641932017.p71

86 58+ 13.569.38629.502220724840201805583875 7.
129094951090723152084884804969621.p47 [Boender, PPMPQS]

86 67+ 3.29.3612271501.343596395614661316577.c98

86 68+ 137.7129.7673.4232593.263879849.
132139393356872155691.946870535969566868689613 77.p62

86 74+ 13.569.3109.696197471618461.5289703145538433673693.
54364334181729325511337533.p74

86 85+ 3.29.41.3911.1318831.1935281.113271378251.31340873638421.
3156754409305371616681.749746510472719509270088 21.
88502271719180801461446075298 31.p43 [Dubner, p-1; Brent, MPQS]

86 88+ 353.12497.61057.149921.326881.1056743978753.
85302903935423147222428009 7.c110

Update 1, Tables 87- to 89-

87 73- 2.43.1753.2180556073006521365676397.c113

87 91- 2.43.79.342889.26494339.130598833.438668366137.
90880697724181.3512247048281690418718 3.p104

87 93- 2.13.19.31^2.43.10789.89109439.588842447957.
310075367684506654831.29558035126935051608598163990471617677 9.p91

87 49+ 2^3.11.428698630543.32586131573880554950399737818319 1.p49

87 62+ 2.5.757.4217.400563855701.1041338854119585772648861.
241077299581810527962001775728493194 1.p41

87 65+ 2^3.11.131.151.443.2003.375091.
209499473746622749.1923321250743814922261.p70

87 70+ 2.5^2.41.197.701.757.2341.92317.6838193281.10337743401241313.
3842711687217470621.456733465483466438396179104755692741.p37
[Boender, PPMPQS]

87 77+ 2^3.11^2.89.463.2971.1097987353.428698630543.
8443913253667.50449463184737.2145112065011784744157513 1.
516150958155809635240717771 03.p37 [Boender, PPMPQS]

87 88+ 2.2113.27457.37361.909284993.43924369201.
787526070373346993170489921.c112 [Dubner, p-1]

87 99+ 2^3.7.11^2.67.89.199.397.1009.1069.2971.6211.9967.69193.
2407219.6088699.67284291889.8443913253667.5771374584900871.
2194420122938555321041.p84

88 59- 3.29.58851220409.7725521132266118912657.p81

88 58+ 5.1549.13371212353.447995318281703047978491141579243265405034 53.p56
[Montgomery, SNFS]

88 78+ 5.37.53.157.313.1549.848849.1620589.2998997.141186602129.
2441474682589859476873.9315234020648127895291 81.p65 [Dubner, p-1]

88 85+ 61.71.89.6257.13691.98737.993481.675903307.5263358951.
30625611289787.1471673423616147468811.40835958833675091391031.
437225300202523962968330102 11.p37 [Boender, PPMPQS]

88 89+ 89^2.407987015619859919.34157350625398046867.
67108459912186790985737.p110

88 98+ 5.1549.286188251441.64001676103429.93302370467461.
4678151437433860849.478727267 3461127236297.
215643309319960967180737.p84

89 49- 2^3.11.502628805631.184091274583648974139291062968551.p50

89 53- 2^3.11.107.1851821.13254129233417996561269.
26769419351039774491111 6957.p45 [Boender, PPMPQS]

Update 1, Tables 89- to 90+

89 67- 2^3.11.171253.2516667443363477227.2332203907087289455109.
17345460386856072657168883886351357651503.p44 [Boender, PPMPQS]

89 81- 2^3.11.73.109.8011.266367259.6807972547.
3841288505945752455073.42277838940870551635999861.p84

89 93- 2^3.11.311.1117.8011.294082927.
510212029609.1548833765803.455810061709109810864442 7.
882661068705280375733921420128007657080452778777987 73.p60

89 53+ 2.3^2.5.41023.1472319649.279342654341701943919635651.p62

89 64+ 2.257.769.211073.443789979316995682177.15331652530873931693401 7.
24415283691066290282745203 3.p44 [Boender, PPMPQS]

89 71+ 2.3^2.5.5981609.3837161497390813550891.24481346707380610569341.p86

89 73+ 2.3^2.5.108627797.2588878009886986271.57661436440314954151.p95

89 74+ 2.17.149.233.15855599753721406213361.c116 [Dubner, p-1]

89 79+ 2.3^2.5.33181.1123045757479.28032870649840319321659.c114
[Dubner, p-1]

89 81+ 2.3^6.5.7.19.163.373.1459.163205767.166111399.
8718957649.1306087722019.16882786837631946853935 1.
340218215106581902954107241981.p53

89 96+ 2.193.2113.14657.254209.1380289.33636481.38611201.
356028464377153.4029994312437697.29584120708058315653717121.
28404496565920646301215443 21.p68

90 67- 89.766398825481.9059751671298162413.103524390485859633447667.p76

90 69- 89.277.1289.1427.8191.238879.227068662973.
99810365260096801591.12884520863384224540819554769.p56

90 85- 89.281.236111.71041879.1885164443.4559542121.139916513426003.
759189770413511.1287593068182741791.24032487045691704495521539 51.p56

90 87- 89.8191.5745307.12029459824653037000298387.
16070112433340009104500348 1.15896409689085203242013831809.
43994323205288100186563019 5693.p49

90 53+ 7.13.743.18127.23321.9489924173557135357172998117171.p60

90 59+ 7.13.1063.443917.7175019338267903.127851366937703287420357.p66

90 85+ 7.11.13.103.571.10133.10331.32063.10568527.51818803933489.
58218277989371.14130796360868003101001.c90

90 91+ 7^2.13^2.53.157.449.606607.25392641.167229077.
4256816590001.3797755755452569.23600091863117277039589331.
65521176600414601804948865 3.17279376756323681612726728 9063.p37

Update 1, Tables 90+ to 92+

90 96+ 193.769.699520193.56689410049.8330734280131598017.
166522575794741886454912421 77.257015063438823952763368170817.
302236128616798495258275923431870081.p51
[Montgomery, ECM; Brent, MPQS]

91 67- 2.3^2.5.15277.560676495103249543.12443384968544192232347.p86

91 79- 2.3^2.5.22279.27708180499.277416556367197964829157.p115

91 49+ 2^2.23.29.19368853799.19734773814151939089146966003 93.p52

91 53+ 2^2.23.107.939199905931655649629236896028155585322297 39.p56
[Montgomery, SNFS]

91 58+ 2.41.101.192189961.3396039829069.29533432745435234769437981954 57.p59
[Arjen Lenstra, PPMPQS]

91 64+ 2.1153.9484137857.1262827566337.1385974681247149313.
887551274606709157857 29.249581554366319519739942707201.p30

91 69+ 2^2.23^2.47.691.8191.487981440901001.
235469790293217049724772 11.412171736984581358984433092276 23.p52

91 74+ 2.41.101.149.6217.12271034474892782977.785629489775752252209661.p93

91 99+ 2^2.19.23.73.397.991.1123.6247.8191.65539.309277.5692910095027.
385183334225519329 51.505998396530507335774870641 43.
441414225233150164674149695323 1.p71

92 47- 7.13.1043213.4393258024989496974484 1.p62

92 59- 7.13.130549301.17794510771179436032645461 3.p80

92 61- 7.13.18830579.31554569.271578918735040633.214959811682646703590881.
191911822792686064401103103981.p34 [Montgomery, ECM]

92 77- 7^2.13.67.2311.9241.159293.549767.70930159351591.
283098362712506281645677127.p89

92 85- 7.11.13.41.160591.19907681.523699469143.2554164508667.
10457508510821.318161607693540708996913621.c87

92 53+ 3.31.413487508169626263116944826462600150122657890364 3.p54
[Montgomery, SNFS]

92 58+ 5.1693.337781842637950869637.
662655899388714762373511879623141241950 9.p50 [Arjen Lenstra, PPMPQS]

92 64+ 29569.937392635769275109720833.p98

92 72+ 17.1153.125617.163980913.301893454786801.1109006809493857.
400451391763096107844228177.130970703849139517836886307532081.p36

92 73+ 3.31.76990181.151208843.175251977.54805309075642117957.p98

92 80+ 75521.487489.1294081.234342416697530081.211711257135545528548617 61.
540306779731621734355189 13.140847249527735303607758632321.p43

Update 1, Tables 92+ to 95-

92 84+ 281.449.673.94777.159553.1550753.2040193.54150148873.
571933838897.54239179064690982372771964 1.
24651527156587484288308809948243436390198 33.p43

92 87+ 3^2.31.59.349.1567.2791.187573.472469.
6446372437608695088883.10127992394070979564027.
628411741359943372493232295836064870462577.p61 [Boender, PPMPQS]

92 95+ 3.31.151.469331.2916092290021.11380284618168161.19379057316609181973.
876273788404126980034911322 1.p101 [Montgomery, p+1]

93 47- 2^2.23.941.709824060593177335902196836771387569 39.p50

93 53- 2^2.23.53551837.39288830696483057447.p76

93 99- 2^2.7.19.23.67.89.307.1249.1783.2179.11243.31527541.
110919079.33579740503.48893642129509.17637300797804158757023.
472666715689349516409031.34667325938880082547916133600 81.p55

93 53+ 2.47.107.1697.66463.7200157.
191926998695502533890959785501678281 73.p49

93 59+ 2.47.87557.414889.12083083.19453745832462646710891828900 61.p67
[Montgomery, ECM]
93 64+ 2.769.1153.87041.261862052609.3694978116380869889.
148324960671376917001170219902369341986433.p44

93 71+ 2.47.569.1847.8237.19769433071135659777.44726732058017538313849607.
187159889169520795280293924847455 7.p50 [Boender, PPMPQS]

93 83+ 2.47.499.1993.2455307.40601941.
22878602972021.6661554209043682270589 9.c106

94 47- 3.31.109793.67225173916237280742333776 3.p59

94 67- 3.31.10042365595007524029536558 3.c105

94 97- 3.31.389.1747.5821.67353697.20058398027810183201.
9812928379049068526833.831342833644764790915194 7.c106

94 47+ 5.19.22279.2461879762423243038668 57.92930203892950674457339 9.p40

94 58+ 929.8837.21528578856552613331758474 9.p82 [Montgomery, SNFS]

94 61+ 5.19.4238281.5018274493160363.62117562558779930627305 7.p73

94 68+ 17^2.137.409.5441.4592641.50597849.108829197325897050143209.p86

94 93+ 5.7.19.1249.4651.48733.6896261.13267381.8434732199261.
352153660378171.2825593093592083.70902254836553857.
315447870958699927924365271.p69

95 49- 2.47.742912017121.266802089568643172667458962133414677626851.p42

Update 1, Tables 95- to 96+

95 53- 2.47.30636863.42952196392722372746031 1.
77742129575018807483006681285339.p40 [Boender, PPMPQS]

95 59- 2.47.188801.2647996912138688405753.c89

95 65- 2.31.47.53.61.101.431.160681.10303935834594643009757.
22499826460568814294276301.p65

95 69- 2.7.47.1303.11317.6099371.10737957332273321.
499238814880462836331.24853953535015622139533.p60

95 73- 2.47.293.877.4673.1716168973.88785471967.100991307611.13095871909823.
21536261658651604313673497350354 3.p57 [Sosnowski, MPQS]

95 47+ 2^5.3.147299.191679544136297085921441555349531 9.p53
[Brent & Keller, ECM]

95 59+ 2^5.3.2833.254700271723.2764614209155534746799.
46344990652085596276653777908 9.p49 [Montgomery, ECM & p+1]

95 62+ 2.4513.184296453763149753123068189.c93 [Montgomery, p-1]

95 71+ 2^5.3.284295626179975541.64227585121659404371046707.c96

95 79+ 2^5.3.317.12415290501157.475910418041586627787.c118

95 80+ 2.139361.241441.1901761441.4740322802977.4642370223978828769.
61195133415667369824 1.450897580997918678316374862446594 67041.p49
[Boender, PPMPQS]

95 85+ 2^5.3.11.103.311.23561.8195021.1075346110691.1978585518583.
213716476796014769.922044896494029899750851.
28128963816360701161589727219170568 1.p49

95 87+ 2^5.3^2.13.229.349.523.1820969.3536196872066707.
215371288505438813430607.6988317746081737807072328981509.p85

95 91+ 2^5.3.127.1093.2003.12377.25117.5727832153.6003873331.90459128874 67.
266965220543926357727.24501227150456807755034677 93.p81

95 93+ 2^5.3^2.13.229.216743011.603776225641.749626729897.1705032931779013.
49440158420444293.20632495124092679742583042244 3707.
27066120609767132805875669860718934886 33.p43

96 79- 5.19.2213.1970515487.195280730961194975807.p122

96 93- 5.19.67.139.441937.20693963570947.100605444393211.95355785680634543.
23691432746760780929665 9.13447095696302014226254656 1.
30953950682891990821056701597.p51 [Boender, PPMPQS]

96 53+ 97.107.15430424857451.2316780259819186942954314555467304 1.p54

96 59+ 97.1128553.24335023.3551346850619.12936350749337580776597.p67

96 91+ 29.53.79.97.443.421279.26713383509.776028725239.
329603812319885860849.p123 [Dubner, p-1]

Update 1, Tables 96+ to 98+

96 95+ 11.97.2671.2861.4447.7639.43254697035227.
323031429688091.18678603767474551.29726301838260871.
426717095494251487736962l.241847699068879601458189083l.p58
[Dubner, p-1; te Riele, MPQS]

97 81- 2^5.3^5.109.163.1153.3169.7129.94336327.240813217.
1191351082918035367.18735466069698085279332883.
27885623692527731300450689 9.p57

97 47+ 2.7^2.1289964727.126022640156104532932649638952319832 73.p46

97 58+ 2.5.941.72617.1423901.75332940401.
123093637925039887516471947128929.p58 [Arjen Lenstra, PPMPQS]

97 59+ 2.7^2.142493969.141667936433453943674390 27.p82

97 62+ 2.5.373.941.59273.1189704652778113847827213751878 69.p80
[Montgomery, ECM]

97 67+ 2.7^2.269.2011.384581.1574501.1518924844504411.
614351464575168613106999257.p72

97 70+ 2.5^2.29.941.14869.15541.103527550008317.
1567320142178381.284225985943330650521.p75

97 79+ 2.7^2.7901.779321264864104832312057.
5176524352482729069165373.c103 [Montgomery, p+1; Dubner, p-1]

97 95+ 2.7^2.3931.4561.22291.778051.593222898884496505984481.
713428557507196622404413721.735239464611390368629403564683.c89

97 98+ 2.5.29.941.14869.15541.236377.2865142309.94714419462041.
103527550008317.2717627312508473.4837515647801870647517.
394691811469267364982735233.p75 [Montgomery, ECM & p+1]

98 53- 97.955697.36265021366481.219418610830984395903548049384447743616 7.p45

98 81- 31.97.313.328768633.1547829271.885843322057.
449103362936100593060685223.171372083726607702114125114461 99.p68
[Montgomery, ECM]

98 53+ 3^2.11.107.1697.266972873.628497076573149095788432070857.p61

98 56+ 1249.6811553423393.95782966933379901856146593.p70

98 59+ 3^2.11.305857.291788015339.11230052393249.
290370474482098105894756472922 91.p55

98 69+ 3^3.11.139.3169.126041.230507.7092649.308006668689852742992203489.
462193137180723704170653896405596993.p50 [Montgomery, ECM]

98 72+ 1249.2593.6811553423393.143720156259649.
279135256688197358151306836 17.76265829428582445883785020346500737.p47

98 91+ 3^2.11.521.547.16787.116923.8571473.52236521.54420092273.
605579541659.12751642138057577.67774615653462330734027233 7.
150856027763097994901861400756223948651.p47

Update 1, Tables 98+ to 99+

98 95+ 3^2.11.761.1481.11971.14251.61651.1665161.35380091.
86855212802144559307723829 71.68811376185847711082012070630250938 7.p91
[Dubner, p-1]

99 65- 2.7^2.53.131.157.97039801.1734834401.821456624786426851.
55078016026833244103946049 7501.p57 [Montgomery, ECM]

99 71- 2.7^2.14627.158047.15490781.482044561.17179549507.
6787613924430123425819.212306907036019251583371817 9.p56

99 77- 2.7^3.397.12979.5526137.10468417.113089684775453.32982101201754013.
230128580234081233.869852018909163044236114543981655 3.p49

99 95- 2.7^2.571.3041.97039801.2334201491.25872120641.39740734591141.
37151009801325375691.207055472356835604911.p101

99 47+ 2^2.5^2.132608787405171329853607002962543543419 31.p52
[Huizing & Montgomery, SNFS]

99 53+ 2^2.5^2.4571887.285543362926494449131396642507.
154318927633938429301426721027830 7.p35

99 61+ 2^2.5^2.53681.315150541115619161845399 81.c90

99 65+ 2^2.5^3.521.2861.19019801.1684301387713950072653.
10171089960370790140312481.p68 [Montgomery, SNFS]

99 67+ 2^2.5^2.232105698061110266693.c112

99 76+ 2.2617.18353.26033801.677502728081.13702449083684826241681.c103
[Dubner, p-1]

99 91+ 2^2.5^2.521.6007.932065347907.168430138771395007 2653.
5697585119133460028477.6961703058707154579277.p97