Thema: Eigenschaften und Anzahl ab 17 benachbarten Primzahlen (ab 17-Tupel)
Property and number from 17 neighboring prime numbers (from 17-tuples)
Main index: http://www.fermatquotient.com

https://www.pzktupel.de/SMArchiv/smadditions.php
https://pzktupel.de/ktpatt_hl.php
https://math.mit.edu/~primegaps/

4 variants 17-tuple:
Variant A: p,p+4,p+6,p+10,p+16,p+18,p+24,p+28,p+30,p+34,p+40,p+46,p+48,p+54,p+58,p+60,p+66 ==> Factor 325/32
Variant B: p,p+6,p+8,p+12,p+18,p+20,p+26,p+32,p+36,p+38,p+42,p+48,p+50,p+56,p+60,p+62,p+66 ==> Factor 325/32
Variant C: p,p+2,p+6,p+12,p+14,p+20,p+24,p+26,p+30,p+36,p+42,p+44,p+50,p+54,p+56,p+62,p+66 ==> Factor 25/2
Variant D: p,p+4,p+10,p+12,p+16,p+22,p+24,p+30,p+36,p+40,p+42,p+46,p+52,p+54,p+60,p+64,p+66 ==> Factor 25/2
17-tuples: Sum of factors = 725/16 = 45.3125 ; Minimum 325/32 = 10.15625
Begin: 46±33
256474.85985417425 = Basis 17-Tuple Prime Constant = (Hardy-Littlewood Constant C_17)*17017^16/(2^171*3^18*5)
Integral: 256474.85...*dX/[Ln(X)]^17 von X = 18 bis X = 1E+25 ==> 4.413413143
Näherung ; Approximation: SLi_17(X) = X/[Ln(X)-1-7.6/Ln(X)-393/Ln(X)^2]^17*256475*725/16 ; X>1E+21
Error = [Spi_17(X)-SLi_17(X)]/Sqrt[SLi_17(X)]

17-Tupel variants A; B; C and D

X	SLi_17(X)	Spi_17(X)	Error	delta_17(X)
1E+22	2.55	5	+1.5	2.45
1E+23	9.25	10	+0.25	0.75
1E+24	41.35	20+?		
1E+25	199.98			
1E+50	1.24531656864E+22			
1E+100	8.73111033588E+66			

2 variants 18-tuple:
Variant A: p,p+4,p+6,p+10,p+16,p+18,p+24,p+28,p+30,p+34,p+40,p+46,p+48,p+54,p+58,p+60,p+66,p+70 ==> Factor 9408/715
Variant B: p,p+4,p+10,p+12,p+16,p+22,p+24,p+30,p+36,p+40,p+42,p+46,p+52,p+54,p+60,p+64,p+66,p+70 ==> Factor 9408/715
18-tuples: Sum of factors = 18816/715 = 26.316083916083...
Begin: 48±35
510992.01030920904 = Basis 18-Tuple Prime Constant = (Hardy-Littlewood Constant C_18)*17017^17/(2^181*3^19*5)
Integral: 510992.01...*dX/[Ln(X)]^18 von X = 19 bis X = 1E+30 ==> 542.8075352429
Näherung ; Approximation: SLi_18(X) = X/[Ln(X)-1-8/Ln(X)-441/Ln(X)^2]^18*510992*18816/715 ; X>1E+23
Error = [Spi_18(X)-SLi_18(X)]s/Sqrt[SLi_18(X)]

```
=====================================================
 18-tuples variants A and B
   X      SLi_18(X)   Spi_18(X)  Error   delta_18(X)
=====================================================
 1E+25    4.31         4         -0.1     -0.31
 1E+26    20.12        9+?
 1E+30    14284.57
 1E+50    1.26467543030E+20
 1E+100   4.40837878400E+64
=====================================================
```

4 variants 19-tuple:

```
Variant A: p,p+4,p+6,p+10,p+16,p+22,p+24,p+30,p+34,p+36,p+42,p+46,p+52,p+60,p+64,p+66,p+70,p+72,p+76 ==> Factor 154/5
Variant B: p,p+4,p+6,p+10,p+12,p+16,p+24,p+30,p+34,p+40,p+42,p+46,p+52,p+54,p+60,p+66,p+70,p+72,p+76 ==> Factor 154/5
Variant C: p,p+4,p+6,p+10,p+16,p+18,p+24,p+28,p+30,p+34,p+40,p+46,p+48,p+54,p+58,p+60,p+66,p+70,p+76 ==> Factor 91/10
Variant D: p,p+6,p+10,p+16,p+18,p+22,p+28,p+30,p+36,p+42,p+46,p+48,p+52,p+58,p+60,p+66,p+70,p+72,p+76 ==> Factor 91/10
19-tuples: Sum of factors = 399/5 = 79.8  ;  Minimum 91/10 = 9.1
Begin: 51±38
1900972.58487418225 = Basis 19-Tuple Prime Constant = (Hardy-Littlewood Constant C_19)*323323^18/(2^210*3^58*5)
Integral: 1900972.5...*dX/[Ln(X)]^19  von X = 20 bis X = 1E+30 ==> 29.84513239
Näherung ; Approximation: SLi_19(X) = X/[Ln(X)-1-8.4/Ln(X)-491/Ln(X)^2]^19*1900973*79.8 ;  X>1E+25
=================================
 19-Tupel variants A; B; C and D
   X      SLi_19(X)   Spi_19(X)
=================================
 1E+26    4.39         2+?
 1E+27    19.00        5+?
 1E+30    2381.64
 1E+50    1.25226961723E+19
 1E+100   2.17004632805E+63
=================================
```

2 variants 20-tuple:

```
Variant A: p,p+2,p+6,p+8,p+12,p+20,p+26,p+30,p+36,p+38,p+42,p+48,p+50,p+56,p+62,p+66,p+68,p+72,p+78,p+80 ==> Factor 416/17
Variant B: p,p+2,p+8,p+12,p+14,p+18,p+24,p+30,p+32,p+38,p+42,p+44,p+50,p+54,p+60,p+68,p+72,p+74,p+78,p+80 ==> Factor 416/17
20-tuples: Sum of factors = 832/17 = 48.9411764705...
Begin: 69±40
6423764.313514722 = Basis 20-Tuple Prime Constant = (Hardy-Littlewood Constant C_20)*323323^19/(2^221*3^61*5)
Integral: 6423764.3...*dX/[Ln(X)]^20  von X = 21 bis X = 1E+30 ==> 1.49616800
Näherung ; Approximation: SLi_20(X) = X/[Ln(X)-1-8.8/Ln(X)-544/Ln(X)^2]^20*6423764*832/17 ;  X>1E+27
Error = [Spi_20(X)-SLi_20(X)]/Sqrt[SLi_20(X)]
```

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=====================================================
 20-tuples variants A and B
   X      SLi_20(X)   Spi_20(X)  Error   delta_20(X)
=====================================================
 1E+28    3.27         2         -0.7     -1.27
 1E+29    14.86        10        -1.26    -4.86
 1E+30    73.22        52+?  https://pzktupel.de/SMArchiv/smadditions.php
 1E+50    2.27828579419E+17
 1E+100   1.96250575342E+61
=====================================================
```

2 variants 21-tuple:

```
Variant A: p,p+4,p+6,p+10,p+12,p+16,p+24,p+30,p+34,p+40,p+42,p+46,p+52,p+54,p+60,p+66,p+70,p+72,p+76,p+82,p+84 ==> Factor 3213/80
Variant B: p,p+2,p+8,p+12,p+14,p+18,p+24,p+30,p+32,p+38,p+42,p+44,p+50,p+54,p+60,p+68,p+72,p+74,p+78,p+80,p+84 ==> Factor 3213/80
21-tuples: Sum of factors = 3213/40 = 80.325
Begin: 71±42
18606666.1740712554408 = Basis 21-Tuple Prime Constant = (Hardy-Littlewood Constant C_21)*323323^20/(2^232*3^64*5)
Integral: 18606666.1...*80.325*dX/[Ln(X)]^21  von X = 22 bis X = 1E+30 ==> SLi_21(1E+30) = 5.43982263
Näherung ; Approximation: SLi_21(X) = X/[Ln(X)-1-9.2/Ln(X)-600/Ln(X)^2]^21*18606666*80.325 ;  X>1E+29
==============================
 21-Tupel variants A and B
   X      SLi_21(X)
==============================
 1E+30    5.44
 1E+50    9.50910046899E+15
 1E+100   4.07129857300E+59
==============================
```

4 variants 22-tuple:

```
0 2 6 8 12 20 26 30 36 38 42 48 50 56 62 66 68 72 78 80 86 90 ==> Factor 65824/2793
0 6 8 14 18 20 24 30 36 38 44 48 50 56 60 66 74 78 80 84 86 90 ==> Factor 329120/8379
0 4 6 10 12 16 24 30 34 40 42 46 52 54 60 66 70 72 76 82 84 90 ==> Factor 329120/8379
0 4 10 12 18 22 24 28 34 40 42 48 52 54 60 64 70 78 82 84 88 90 ==> Factor 65824/2793
22-tuples: Sum of factors = 1053184/8379 = 125.6932808211...  ;  Minimum 65824/2793 = 23.567...
38734732.6766787098859 = Basis 22-Tuple Prime Constant = (Hardy-Littlewood Constant C_22)*323323^21/(2^243*3^67*5)
Integral: 38734732.6...*1053184/8379*dX/[Ln(X)]^22  von X = 23 bis X = 1E+40 ==> SLi_22(1E+40) = 64944548.452
==============================
 22-Tupel: 4 variants
   X      SLi_22(X)
==============================
 1E+40    64944548.45
 1E+50    271994862552055
 1E+100   5.78766169377E+57
==============================
```

2 variants 23-tuple:
0 4 6 10 12 16 24 30 34 40 42 46 52 54 60 66 70 72 76 82 84 90 94 ==> Factor 250/9
0 4 10 12 18 22 24 28 34 40 42 48 52 54 60 64 70 78 82 84 88 90 94 ==> Factor 250/9
23-tuples: Sum of factors = 500/9 = 55.5555555555...
153217016.957300474613 = Basis 23-Tuple Prime Constant = (Hardy-Littlewood Constant C_23)*676039^22/(2^277*3^70*5*11)
Integral: 153217016.9...*500/9*dX/[Ln(X)]^23 von X = 24 bis X = 1E+50 ==> SLi_23(1E+50) = 4176031101591

23-Tupel: 2 variants	
X	SLi_23(X)
1E+50	4176031101591
1E+100	4.41582761258E+55
1E+200	4.98524984794E+148

4 variants 24-tuple:
0 4 6 10 12 16 24 30 34 40 42 46 52 60 66 70 72 76 82 84 90 94 96 100 ==> Factor 144000/5083
0 4 6 12 16 24 30 34 40 42 46 52 54 60 66 70 72 76 82 84 90 94 96 100 ==> Factor 216000/5083
0 4 6 10 16 18 24 28 30 34 40 46 48 54 58 60 66 70 76 84 88 94 96 100 ==> Factor 216000/5083
0 4 6 10 16 18 24 28 30 34 40 48 54 58 60 66 70 76 84 88 90 94 96 100 ==> Factor 144000/5083
24-tuples: Sum of factors = 720000/5083 = 141.6486326972... ; Minimum 144000/5083 = 28.329...
568632503.547337462583 = Basis 24-Tuple Prime Constant = (Hardy-Littlewood Constant C_24)*676039^23/(2^289*3^73*5*11)
Integral: 568632503.5...*720000/5083*dX/[Ln(X)]^24 von X = 25 bis X = 1E+50 ==> SLi_24(1E+50) = 347063473244.54

24-Tupel: 4 variants	
X	SLi_24(X)
1E+50	347063473244.5
1E+100	1.82355608922E+54
1E+200	1.02670840518E+147

18 variants 25-tuple:
0 2 6 8 12 18 20 26 30 32 36 42 48 50 56 62 68 72 78 86 90 96 98 102 110 ==> Factor 875/22
0 2 6 8 12 20 26 30 36 38 42 48 56 66 68 72 78 80 86 90 92 96 98 108 110 ==> Factor 350175/22528
0 2 6 8 12 20 26 30 36 38 42 48 50 56 66 68 72 78 80 86 90 92 98 108 110 ==> Factor 15225/1024
0 2 6 8 12 20 26 30 36 38 42 50 56 66 68 72 78 80 86 90 92 96 98 108 110 ==> Factor 90045/5632
0 2 6 8 12 20 26 30 36 38 42 50 56 62 66 68 72 78 80 86 90 92 96 108 110 ==> Factor 150075/9856
0 2 6 8 12 20 26 30 36 38 42 48 56 62 66 68 72 78 80 86 90 92 96 108 110 ==> Factor 83375/5632
0 2 6 8 12 18 20 26 30 32 36 42 50 56 62 68 72 78 86 90 92 96 98 102 110 ==> Factor 7875/352
0 2 6 12 14 20 24 26 30 32 42 44 54 56 60 66 72 74 80 86 90 96 102 104 110 ==> Factor 230/11
0 6 8 14 20 24 30 36 38 44 50 54 56 66 68 78 80 84 86 90 96 98 104 108 110 ==> Factor 230/11

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0 2 8 12 14 18 24 30 32 38 42 44 50 54 60 68 72 74 78 80 84 98 102 108 110 ==> Factor 2465/33
0 2 8 12 26 30 32 36 38 42 50 56 60 66 68 72 78 80 86 92 96 98 102 108 110 ==> Factor 2465/33
0 8 12 14 18 20 24 32 38 42 48 54 60 68 74 78 80 84 90 92 98 102 104 108 110 ==> Factor 7875/352
0 8 12 14 20 24 32 38 42 48 54 60 62 68 74 78 80 84 90 92 98 102 104 108 110 ==> Factor 875/22
0 2 12 14 18 20 24 30 32 38 42 44 54 60 68 72 74 80 84 90 98 102 104 108 110 ==> Factor 90045/5632
0 2 12 18 20 24 30 32 38 42 44 54 60 62 68 72 74 80 84 90 98 102 104 108 110 ==> Factor 15225/1024
0 2 12 14 18 20 24 30 32 38 42 44 54 62 68 72 74 80 84 90 98 102 104 108 110 ==> Factor 350175/22528
0 2 14 18 20 24 30 32 38 42 44 48 54 62 68 72 74 80 84 90 98 102 104 108 110 ==> Factor 83375/5632
0 2 14 18 20 24 30 32 38 42 44 48 54 60 68 72 74 80 84 90 98 102 104 108 110 ==> Factor 150075/9856
25-tuples: Sum of factors = 110788585/236544 = 468.3635391301...  ;  Minimum 83375/5632 = 14.803...
1941938594.69645901209 = Basis 25-Tuple Prime Constant = (Hardy-Littlewood Constant C_25)*676039^24/(2^301*3^76*5*11)
Integral: 1941938594.6...*110788585/236544*dX/[Ln(X)]^25  von X = 26 bis X = 1E+50 ==> SLi_25(1E+50) = 34425066584.20
============================
 25-Tupel: 18 variants
   X      SLi_25(X)
============================
 1E+50    34425066584.20
 1E+100   8.98672646955E+52
 1E+200   2.52333285659E+145
============================
```

2 variants 26-tuple:

```
0 4 6 10 12 16 24 30 34 40 42 46 52 60 66 70 72 76 82 84 90 94 96 100 112 114 ==> Factor 97888/4675
0 2 14 18 20 24 30 32 38 42 44 48 54 62 68 72 74 80 84 90 98 102 104 108 110 114 ==> Factor 97888/4675
26-tuples: Sum of factors = 195776/4675 = 41.8772192513...
5901270659.2562254710 = Basis 26-Tuple Prime Constant = (Hardy-Littlewood Constant C_26)*676039^25/(2^313*3^79*5*11)
Integral: 5901270659.2...*195776/4675*dX/[Ln(X)]^26  von X = 27 bis X = 1E+50 ==> SLi_26(1E+50) = 82172797.042
============================
 26-Tupel: 2 variants
   X      SLi_26(X)
============================
 1E+50    82172797.04
 1E+100   1.06567497024E+50
 1E+200   1.49222589982E+142
============================
```

8 variants 27-tuple:

```
0 2 6 8 12 18 20 26 30 32 36 42 48 50 56 62 68 72 78 86 90 96 98 102 110 116 120 ==> Factor 1687257/22400
0 2 8 12 26 30 32 36 38 42 50 56 60 66 68 72 78 80 86 92 96 98 102 108 110 116 120 ==> Factor 1168101/51200
0 4 6 10 16 18 24 28 30 34 36 46 48 58 60 66 70 76 78 84 88 94 100 106 114 118 120 ==> Factor 14939397/204800
0 4 10 12 18 22 24 28 34 40 42 48 52 54 60 64 70 78 82 84 88 90 94 108 112 118 120 ==> Factor 1168101/51200
0 4 6 10 16 18 28 30 34 36 48 58 60 64 66 70 76 78 84 88 94 100 106 108 114 118 120 ==> Factor 1499553/40960
0 2 6 14 20 26 32 36 42 44 50 54 60 62 72 74 84 86 90 92 96 102 104 110 114 116 120 ==> Factor 14939397/204800
```

0 2 6 12 14 20 26 32 36 42 44 50 54 56 60 62 72 84 86 90 92 102 104 110 114 116 120 ==> Factor 1499553/40960
0 4 10 18 22 24 30 34 42 48 52 58 64 70 72 78 84 88 90 94 100 102 108 112 114 118 120 ==> Factor 1687257/22400
27-tuples: Sum of factors = 29775141/71680 = 415.3898018973... ; Minimum 1168101/51200 = 22.814...
14898214023.063446970 = Basis 27-Tuple Prime Constant = (Hardy-Littlewood Constant C_27)*676039^26/(2^325*3^82*5*11)
Integral: 14898214023.0...* 29775141/71680*dX/[Ln(X)]^27 von X = 28 bis X = 1E+50 ==> SLi_27(1E+50) = 18080137.666
============================
 27-Tupel: 8 variants
   X   SLi_27(X)
============================
 1E+50   18080137.67
 1E+100   1.16471733366E+49
 1E+200   8.13315033469E+140
============================

10 variants 28-tuple:
0 2 6 8 12 20 26 30 36 38 42 48 56 66 68 72 78 80 86 90 92 96 98 108 110 120 122 126 ==> Factor 365568/3875
0 6 8 12 18 20 26 32 38 42 48 50 56 60 62 66 68 78 90 92 96 98 108 110 116 120 122 126 ==> Factor 464027648/4373325
0 4 6 10 16 18 24 28 30 34 36 46 48 58 60 66 70 76 78 84 88 94 100 106 114 118 120 126 ==> Factor 40247296/220875
0 6 10 12 16 22 24 30 34 36 40 42 52 54 64 66 72 76 82 84 90 94 100 106 112 120 124 126 ==> Factor 100896768/957125
0 4 6 10 16 18 28 30 34 36 48 58 60 64 66 70 76 78 84 88 94 100 106 108 114 118 120 126 ==> Factor 464027648/4373325
0 4 6 16 18 28 30 34 36 40 46 48 54 58 60 70 78 84 88 90 96 100 106 114 118 120 124 126 ==> Factor 365568/3875
0 6 8 12 20 26 32 38 42 48 50 56 60 66 68 78 80 90 92 96 98 102 108 110 116 120 122 126 ==> Factor 40247296/220875
0 2 6 14 20 26 32 36 42 44 50 54 60 62 72 74 84 86 90 92 96 102 104 110 114 116 120 126 ==> Factor 100896768/957125
0 2 6 12 14 24 26 30 32 44 54 56 60 62 66 72 74 80 84 90 96 102 104 110 114 116 122 126 ==> Factor 2201024/13585
0 4 10 12 16 22 24 30 36 42 46 52 54 60 64 66 70 72 82 94 96 100 102 112 114 120 124 126 ==> Factor 2201024/13585
28-tuples: Sum of factors = 73920214912/56853225 = 1300.1938748769... ; Minimum 365568/3875 = 94.340...
25657434966.293834638 = Basis 28-Tuple Prime Constant = (Hardy-Littlewood Constant C_28)*676039^27/(2^337*3^85*5*11)
Integral: 25657434966.2...*73920214912/56853225*dX/[Ln(X)]^28 von X = 29 bis X = 1E+50 ==> SLi_28(1E+50) = 856446.2431
============================
 28-Tupel: 10 variants
   X   SLi_28(X)
============================
 1E+50   856446.24
 1E+100   2.74025969785E+47
 1E+200   9.54223273703E+138
============================

2 variants 29-tuple:
0 4 6 10 16 18 28 30 34 36 48 58 60 64 66 70 76 78 84 88 94 100 106 108 114 118 120 126 130 ==> Factor 131285/768
0 4 10 12 16 22 24 30 36 42 46 52 54 60 64 66 70 72 82 94 96 100 102 112 114 120 124 126 130 ==> Factor 131285/768
29-tuples: Sum of factors = 262570/768 = 341.8880208333...
75878071120.831319794 = Basis 29-Tuple Prime Constant = (Hardy-Littlewood Constant C_29)*2800733^28/(2^407*3^88*5*7*11)
Integral: 75878071120.8...*262570/768*dX/[Ln(X)]^29 von X = 30 bis X = 1E+50 ==> SLi_29(1E+50) = 5853.427959

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============================
 29-Tupel: 2 variants
   X      SLi_29(X)
============================
 1E+50    5853.43
 1E+100   9.30082098388E+44
 1E+200   1.61506890419E+136
============================


2 variants 30-tuple:
0 4 6 10 16 18 28 30 34 36 48 58 60 64 66 70 76 78 84 88 94 100 106 108 114 118 120 126 130 136 ==> Factor 1944000000/11350339
0 6 10 16 18 22 28 30 36 42 48 52 58 60 66 70 72 76 78 88 100 102 106 108 118 120 126 130 132 136 ==> Factor 1944000000/11350339
30-tuples: Sum of factors = 3888000000/11350339 = 342.5448350044...
161629422383.08686759 = Basis 30-Tuple Prime Constant = (Hardy-Littlewood Constant C_30)*2800733^29/(2^421*3^91*5*7*11)
Integral: 161629422383.0...*3888000000/11350339*dX/[Ln(X)]^30  von X = 32 bis X = 1E+50 ==> SLi_30(1E+50) = 109.8240319
============================
 30-Tupel: 2 variants
   X      SLi_30(X)
============================
 1E+50    109.82
 1E+100   8.66404502191E+42
 1E+200   7.50228099875E+133
============================


2 variants 31-tuple:
0 2 6 8 12 18 20 26 30 32 36 42 48 50 56 62 68 72 78 86 90 96 98 102 110 116 120 128 132 138 140 ==> Factor 25308/55
0 2 8 12 20 24 30 38 42 44 50 54 62 68 72 78 84 90 92 98 104 108 110 114 120 122 128 132 134 138 140 ==> Factor 25308/55
31-tuples: Sum of factors = 50616/55 = 920.2909090909...
656108859543.9 = Basis 31-Tuple Prime Constant = (Hardy-Littlewood Constant C_31)*86822723^30/(2^466*3^125*5^32*7*11)
Integral: 656108859543.9*50616/55*dX/[Ln(X)]^31  von X = 34 bis X = 1E+50 ==> SLi_31(1E+50) = 10.55781207
============================
 31-Tupel: 2 variants
   X      SLi_31(X)
============================
 1E+50    10.56
 1E+100   4.12436154843E+41
 1E+200   1.78083415739E+132
============================


4 variants 32-tuple:
0 2 6 8 12 18 20 26 30 32 36 42 48 50 56 62 68 72 78 86 90 96 98 102 110 116 120 128 132 138 140 146 ==> Factor 8230872/15785
0 2 6 12 14 20 26 30 32 36 42 44 54 56 60 72 74 86 90 92 96 104 110 114 116 120 126 132 134 140 144 146 ==> Factor 3785359360/3570567
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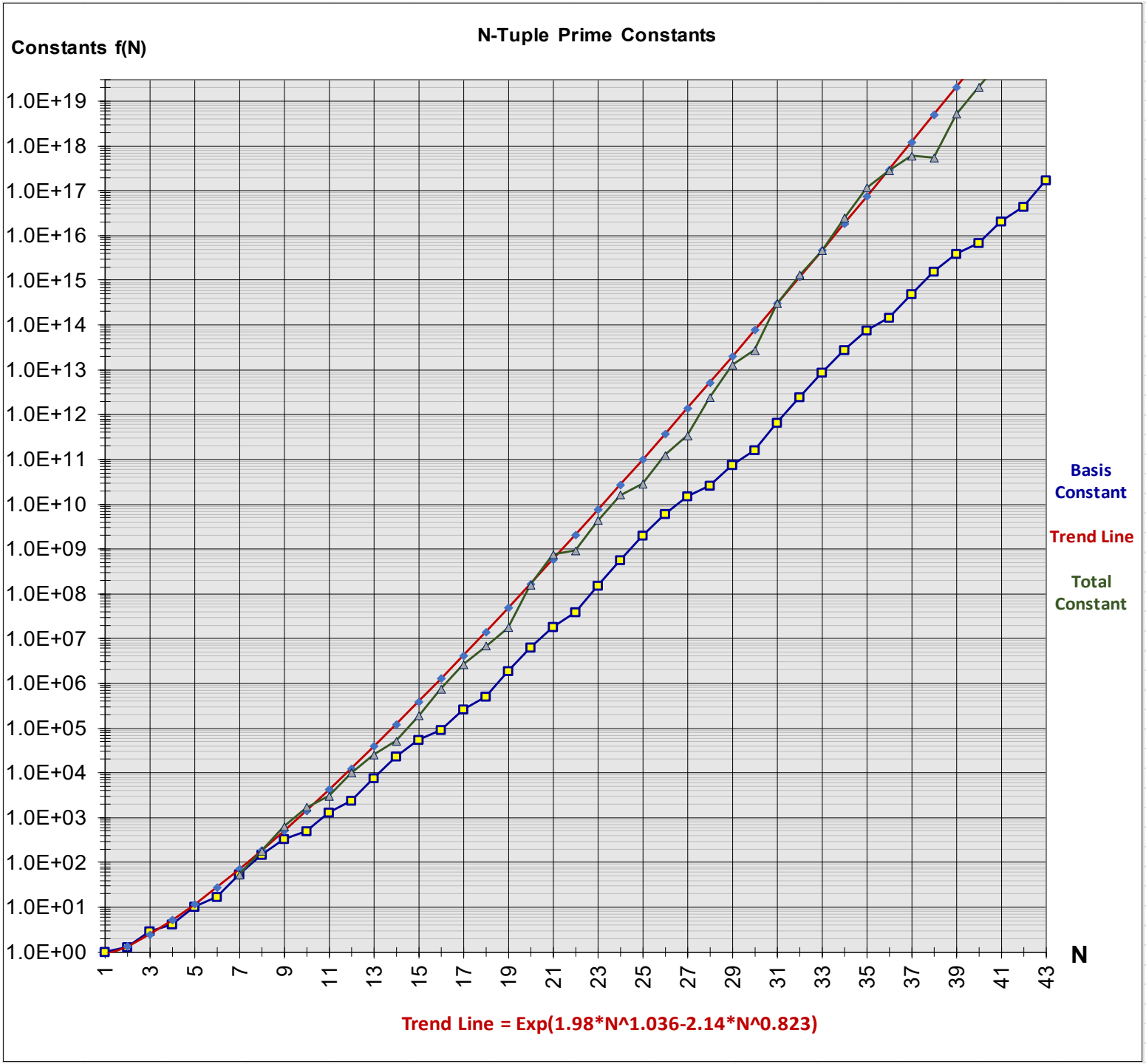
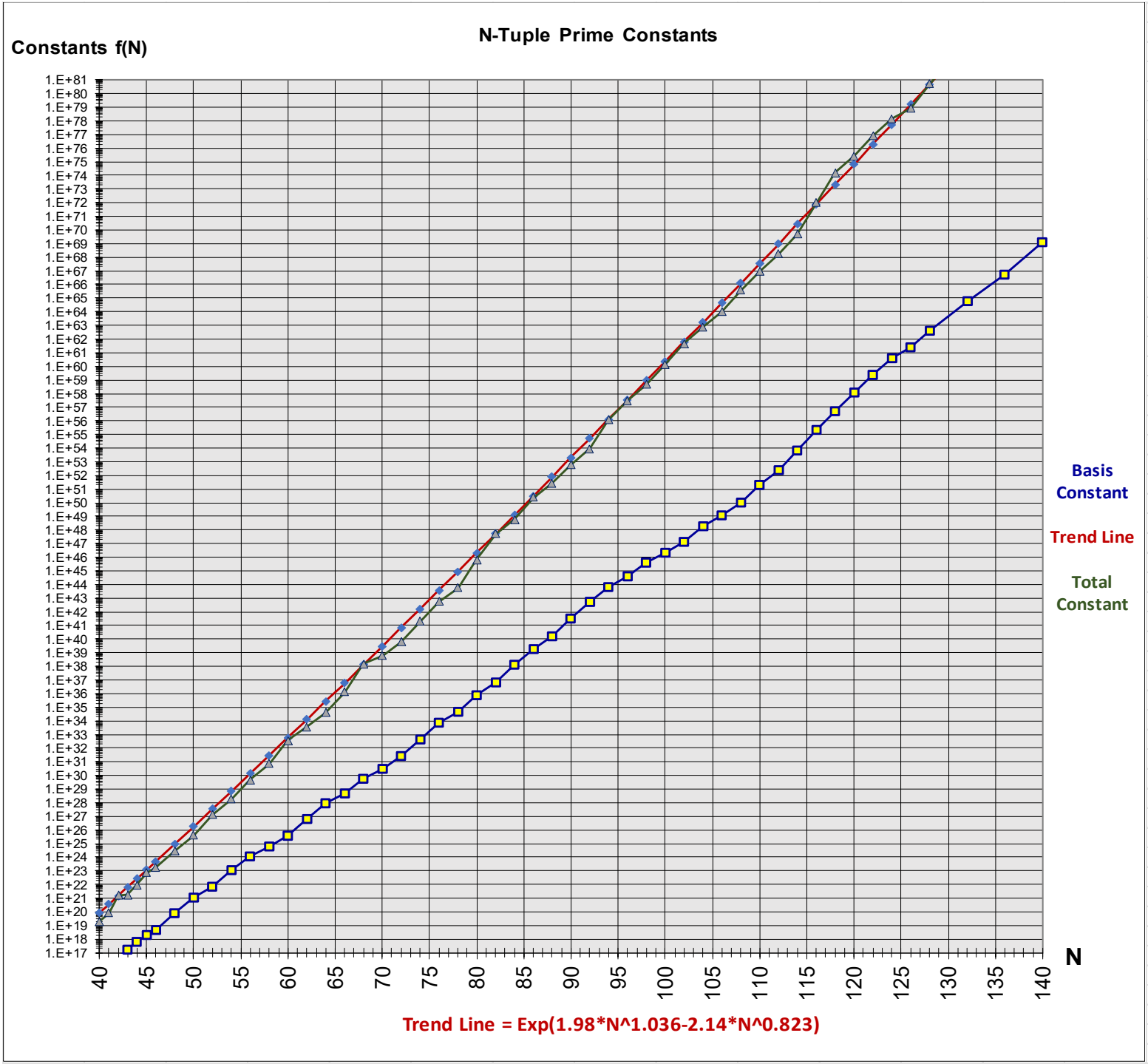
0 2 6 12 14 20 26 30 32 36 42 50 54 56 60 72 74 86 90 92 102 104 110 114 116 120 126 132 134 140 144 146 ==> Factor 3785359360/3570567
0 6 8 14 18 26 30 36 44 48 50 56 60 68 74 78 84 90 96 98 104 110 114 116 120 126 128 134 138 140 144 146 ==> Factor 8230872/15785
32-tuples: Sum of factors = 56471826064/17852835 = 3163.1853464169... ; Minimum 8230872/15785 = 521.436...
2509237144998 = Basis 32-Tuple Prime Constant = (Hardy-Littlewood Constant C_32)*86822723^31/(2^481*3^129*5^33*7*11)
Integral: 2509237144998*56471826064/17852835*dX/[Ln(X)]^32 von X = 36 bis X = 1E+60 ==> SLi_32(1E+60) = 33390049.073
============================
 32-Tupel: 4 variants
   X   SLi_32(X)
============================
 1E+50   1.29
 1E+100   2.36649777035E+40
 1E+200   5.09516356546E+130
============================

14 variants 33-tuple:
0 2 6 8 12 18 20 26 30 32 36 42 48 50 56 62 68 72 78 86 90 96 98 102 110 116 120 128 132 138 140 146 152 ==> Factor 21461517/41600
0 2 6 8 12 20 26 30 36 42 48 50 56 62 68 72 78 80 86 90 96 98 108 110 120 122 128 132 138 140 146 150 152 ==> Factor 82945863/38000
0 2 6 8 12 20 26 30 36 38 42 48 50 56 62 68 72 78 80 86 90 96 108 110 122 126 128 132 138 140 146 150 152 ==> Factor 966265443/486400
0 2 6 8 12 20 30 36 38 42 50 56 62 68 72 78 80 86 90 96 98 108 110 120 122 126 128 132 138 140 146 150 152 ==> Factor 31239351/48640
0 2 6 12 14 20 24 26 30 36 42 44 50 56 62 66 72 80 84 90 92 96 104 110 114 122 126 132 134 140 146 150 152 ==> Factor 620379/650
0 2 8 12 14 18 24 30 32 38 42 44 50 54 60 68 72 74 78 80 84 98 102 108 110 120 122 128 134 138 144 150 152 ==> Factor 6214725/9044
0 2 6 12 14 20 24 26 30 32 42 44 54 56 62 66 72 74 80 84 90 96 102 110 114 116 122 132 140 144 146 150 152 ==> Factor 31239351/48640
0 2 6 12 14 20 24 30 32 42 44 54 56 62 66 72 74 80 84 90 96 102 104 110 116 122 126 132 140 144 146 150 152 ==> Factor 82945863/38000
0 6 8 12 18 20 26 32 36 38 42 48 50 60 62 66 78 80 92 96 98 102 110 116 120 122 126 132 138 140 146 150 152 ==> Factor 6530729733/4630528
0 2 6 12 14 20 24 26 30 42 44 56 62 66 72 74 80 84 90 96 102 104 110 114 116 122 126 132 140 144 146 150 152 ==> Factor 966265443/486400
0 2 8 14 18 24 30 32 42 44 50 54 68 72 74 78 80 84 92 98 102 108 110 114 120 122 128 134 138 140 144 150 152 ==> Factor 6214725/9044
0 2 6 12 18 20 26 30 38 42 48 56 60 62 68 72 80 86 90 96 102 108 110 116 122 126 128 132 138 140 146 150 152 ==> Factor 620379/650
0 2 6 12 14 20 26 30 32 36 42 50 54 56 60 72 74 86 90 92 102 104 110 114 116 120 126 132 134 140 144 146 152 ==> Factor 6530729733/4630528
0 6 12 14 20 24 32 36 42 50 54 56 62 66 74 80 84 90 96 102 104 110 116 120 122 126 132 134 140 144 146 150 152 ==> Factor 21461517/41600
33-tuples: Sum of factors = 63052214047083/3762304000 = 16758.9365577802... ; Minimum 21461517/41600 = 515.901...
8884432946563 = Basis 33-Tuple Prime Constant = (Hardy-Littlewood Constant C_33)*86822723^32/(2^496*3^133*5^34*7*11)
Integral: 8884432946563*63052214047083/3762304000*dX/[Ln(X)]^33 von X = 38 bis X = 1E+60 ==> SLi_33(1E+60) = 4577578.523
============================
 33-Tupel: 14 variants
   X   SLi_33(X)
============================
 1E+50   0.55
 1E+100   1.93781053797E+39
 1E+200   2.08036568932E+129
============================

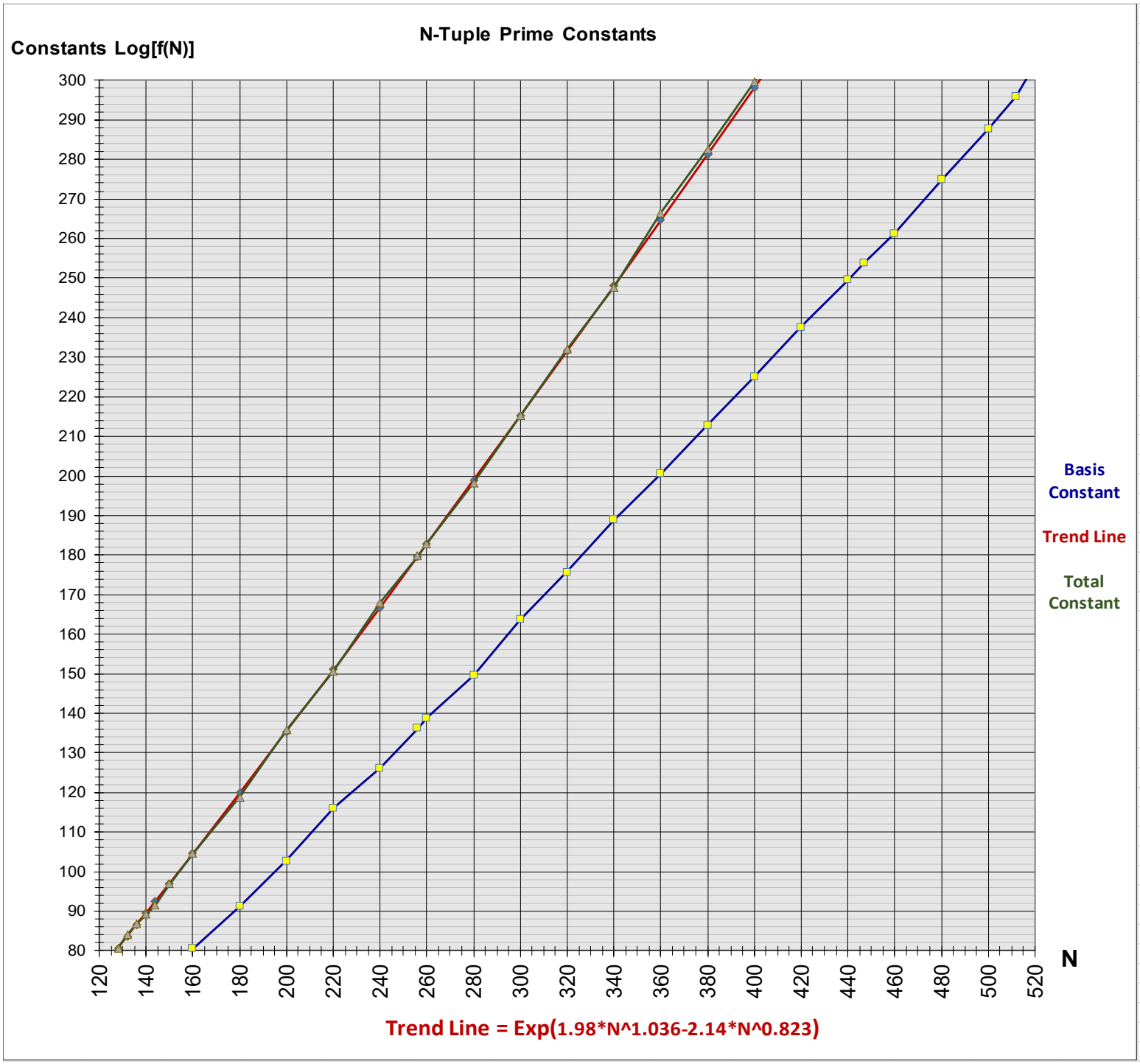
N-Tuple series see: https://math.mit.edu/~primegaps/



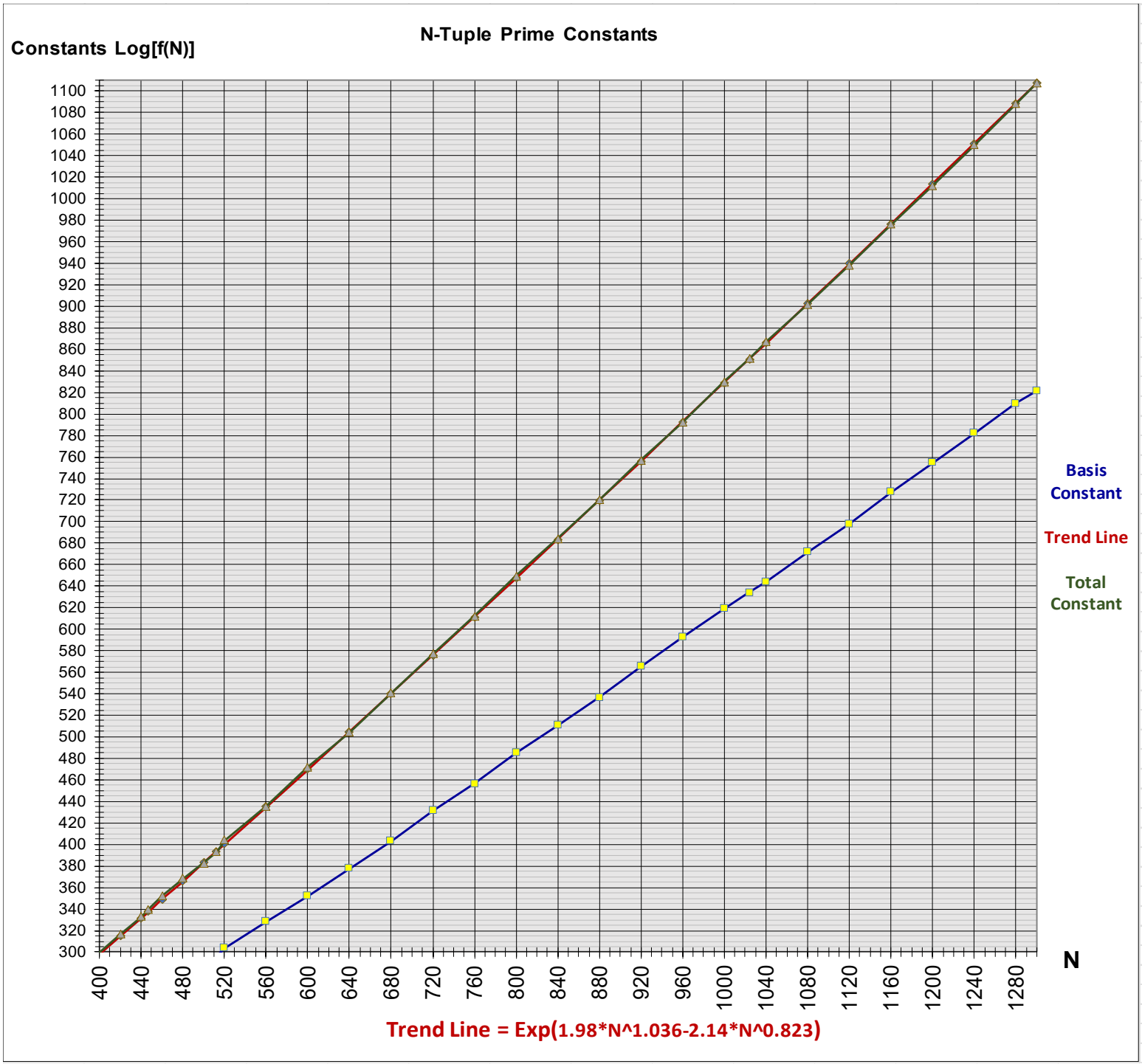
N	Basis Constant	Minimal Factor	Total Constant	Trend Line
1	1	1	1	0.8521438
2	1.320323632	1	1.320323632	1.315511
3	2.858248596	1	2.858248596	2.4452642
4	4.151180863	1	4.151180863	5.0928856
5	10.13179495	1	10.13179495	11.506959
6	17.29861231	1	17.29861231	27.691065
7	53.9719483	1	53.9719483	70.141631
8	148.5516287	1.2	178.2619544	185.48452
9	336.0343267	1.875	630.0643627	509.0051
10	511.4222821	3.333333333	1704.74094	1442.8589
11	1312.319711	2.333333333	3062.079326	4209.6068
12	2364.598963	4.2	9931.315646	12603.961
13	7820.60003	3.208333333	25091.09176	38634.617
14	22938.90863	2.222222222	50975.35252	120997.57
15	55651.46255	3.375	187823.6861	386514.6
16	91555.11123	8.205128205	751221.4254	1257499.6
17	256474.8599	10.15625	2604822.795	4161503.1
18	510992.0103	13.15804196	6723654.312	13992959
19	1900972.585	9.1	17298850.52	47759452
20	6423764.314	24.47058824	157193291.4	165318121
21	18606666.17	40.1625	747290230.2	579901217
22	38734732.68	23.56749015	912880431	2.06E+09
23	153217017	27.77777778	4256028249	7.405E+09
24	568632503.5	28.32972654	16109203327	2.693E+10
25	1941938595	14.80379972	28748070016	9.898E+10
26	5901270659	20.93860963	1.23564E+11	3.676E+11
27	14898214023	22.81447266	3.39895E+11	1.379E+12
28	25657434966	94.34012903	2.42053E+12	5.222E+12
29	75878071121	170.9440104	1.29709E+13	1.996E+13
30	1.61629E+11	171.2724175	2.76827E+13	7.696E+13
31	6.56109E+11	460.1454545	3.01906E+14	2.992E+14
32	2.50924E+12	521.4363003	1.30841E+15	1.173E+15
33	8.88443E+12	515.901851	4.5835E+15	4.636E+15
34	2.82598E+13	850.5903032	2.40375E+16	1.846E+16
35	7.58965E+13	1525.411651	1.15773E+17	7.404E+16
36	1.43377E+14	1954.185246	2.80185E+17	2.991E+17
37	4.98109E+14	1193.700825	5.94593E+17	1.217E+18
38	1.53792E+15	348.8969878	5.36576E+17	4.983E+18
39	3.93676E+15	1292.830611	5.08956E+18	2.054E+19
40	6.85171E+15	2975.441287	2.03869E+19	8.522E+19
41	2.0367E+16	4055.330896	8.2595E+19	3.557E+20
42	4.32088E+16	35562.57567	1.53662E+21	1.494E+21
43	1.71856E+17	10150.81814	1.74448E+21	6.31E+21
44	6.23851E+17	14065.05712	8.7745E+21	2.68E+22
45	1.9523E+18	37885.71944	7.39643E+22	1.145E+23
46	4.42187E+18	39964.2246	1.76717E+23	4.917E+23
47	1.91978E+19	100635.6569	1.93198E+24	2.123E+24
48	7.90917E+19	35685.44268	2.82242E+24	9.214E+24
49	3.04425E+20	48301.85865	1.47043E+25	4.019E+25
50	1.06514E+21	36028.16791	3.83749E+25	1.762E+26
52	6.90223E+21	193413.2907	1.33498E+27	3.434E+27
54	1.09282E+23	161728.3684	1.7674E+28	6.818E+28



N	Basis Constant	(Minimal) Factor	Total Constant	Trend Line
40	6.85171E+15	2975.441287	2.03869E+19	8.522E+19
41	2.0367E+16	4055.330896	8.2595E+19	3.557E+20
42	4.32088E+16	35562.57567	1.53662E+21	1.494E+21
43	1.71856E+17	10150.81814	1.74448E+21	6.31E+21
44	6.23851E+17	14065.05712	8.7745E+21	2.68E+22
45	1.9523E+18	37885.71944	7.39643E+22	1.145E+23
46	4.42187E+18	39964.2246	1.76717E+23	4.917E+23
48	7.90917E+19	35685.44268	2.82242E+24	9.214E+24
50	1.06514E+21	36028.16791	3.83749E+25	1.762E+26
52	6.90223E+21	193413.2907	1.33498E+27	3.434E+27
54	1.09282E+23	161728.3684	1.7674E+28	6.818E+28
56	1.22822E+24	374889.1241	4.60445E+29	1.378E+30
58	5.81068E+24	1262562.232	7.33635E+30	2.833E+31
60	4.00569E+25	8704103.051	3.48659E+32	5.92E+32
62	6.85214E+26	5480240.099	3.75514E+33	1.257E+34
64	8.57688E+27	4834295.468	4.14632E+34	2.709E+35
66	4.89136E+28	26749837.42	1.30843E+36	5.925E+36
68	5.99159E+29	246159995.1	1.47489E+38	1.315E+38
70	3.12317E+30	194866745.2	6.08601E+38	2.957E+39
72	2.40599E+31	266126987	6.403E+39	6.741E+40
74	4.6885E+32	414108964	1.94155E+41	1.557E+42
76	6.87136E+33	776426563.5	5.33511E+42	3.64E+43
78	4.78623E+34	1195269806	5.72084E+43	8.615E+44
80	7.70252E+35	8563728669	6.59623E+45	2.063E+46
82	6.15777E+36	81290397353	5.00568E+47	4.999E+47
84	1.2624E+38	46000271337	5.80707E+48	1.225E+49
86	1.99443E+39	1.22841E+11	2.44999E+50	3.033E+50
88	1.57276E+40	1.67735E+11	2.63807E+51	7.594E+51
90	3.23551E+41	1.74778E+11	5.65497E+52	1.921E+53
92	5.46496E+42	1.56455E+11	8.55022E+53	4.908E+54
94	6.68395E+43	1.8099E+12	1.20972E+56	1.266E+56
96	3.66785E+44	8.28607E+12	3.03921E+57	3.3E+57
98	4.22244E+45	1.11798E+13	4.72061E+58	8.678E+58
100	1.98986E+46	7.07097E+13	1.40703E+60	2.304E+60
102	1.29108E+47	3.58365E+14	4.62677E+61	6.17E+61
104	1.81143E+48	4.22453E+14	7.65245E+62	1.667E+63
106	1.08567E+49	9.1364E+14	9.91913E+63	4.544E+64
108	9.54916E+49	3.95292E+15	3.7747E+65	1.249E+66
110	2.01853E+51	4.57181E+15	9.22833E+66	3.462E+67
112	2.24525E+52	8.14351E+15	1.82842E+68	9.672E+68
114	7.03294E+53	6.93805E+15	4.87949E+69	2.724E+70
116	2.04241E+55	4.97729E+16	1.01656E+72	7.732E+71
118	5.40052E+56	2.80136E+17	1.51288E+74	2.212E+73
120	1.26362E+58	2.14848E+17	2.71486E+75	6.374E+74
122	2.4855E+59	3.17435E+17	7.88982E+76	1.85E+76
124	3.6609E+60	3.7708E+17	1.38045E+78	5.411E+77
126	2.54609E+61	3.11375E+17	7.92789E+78	1.594E+79
128	4.05011E+62	1.30987E+18	5.30511E+80	4.727E+80
132	6.09746E+64	1.54458E+19	9.41804E+83	4.244E+83
136	5.29315E+66	1.10257E+20	5.83608E+86	3.914E+86
140	1.28163E+69	1.25744E+20	1.61157E+89	3.703E+89
144	5.28317E+71	7.44015E+19	3.93075E+91	3.592E+92



	Basis		Total	
N	Constant	Factor	Constant	Trend Line
80	7.70252E+35	8563728669	6.59623E+45	2.063E+46
88	1.57276E+40	1.67735E+11	2.63807E+51	7.594E+51
92	5.46496E+42	1.56455E+11	8.55022E+53	4.908E+54
96	3.66785E+44	8.28607E+12	3.03921E+57	3.3E+57
100	1.98986E+46	7.07097E+13	1.40703E+60	2.304E+60
104	1.81143E+48	4.22453E+14	7.65245E+62	1.667E+63
108	9.54916E+49	3.95292E+15	3.7747E+65	1.249E+66
112	2.24525E+52	8.14351E+15	1.82842E+68	9.672E+68
116	2.04241E+55	4.97729E+16	1.01656E+72	7.732E+71
120	1.26362E+58	2.14848E+17	2.71486E+75	6.374E+74
124	3.6609E+60	3.7708E+17	1.38045E+78	5.411E+77
128	4.05011E+62	1.30987E+18	5.30511E+80	4.727E+80
132	6.09746E+64	1.54458E+19	9.41804E+83	4.244E+83
136	5.29315E+66	1.10257E+20	5.83608E+86	3.914E+86
140	1.28163E+69	1.25744E+20	1.61157E+89	3.703E+89
144	5.28317E+71	7.44015E+19	3.93075E+91	3.592E+92
150	3.35287E+74	2.32235E+22	7.78654E+96	1.135E+97
160	3.15784E+80	9.90354E+23	3.1274E+104	4.02E+104
180	1.71178E+91	3.51695E+27	6.0202E+118	7.50E+119
200	5.5531E+102	1.04327E+33	5.7934E+135	2.25E+135
220	1.0422E+116	5.39489E+34	5.6223E+150	1.03E+151
240	1.4504E+126	6.7308E+41	9.762E+167	6.93E+166
256	1.6346E+136	3.26471E+43	5.3363E+179	4.09E+179
260	6.1475E+138	1.13762E+44	6.9935E+182	6.58E+182
280	4.2128E+149	3.34423E+48	1.4089E+198	8.60E+198
300	4.5160E+163	3.55625E+51	1.606E+215	1.51E+215
320	5.1586E+175	2.12081E+56	1.094E+232	3.47E+231
340	7.8535E+188	6.40733E+58	5.032E+247	1.03E+248
360	3.8183E+200	7.36605E+65	2.8125E+266	3.88E+264
380	5.6198E+212	6.51761E+69	3.6628E+282	1.83E+281
400	1.0299E+225	3.78664E+74	3.8999E+299	1.06E+298
420	3.4272E+237	1.76487E+79	6.0485E+316	7.54E+314
440	3.3562E+249	2.47958E+83	8.3221E+332	6.47E+331
447	6.8163E+253	9.83841E+85	6.7061E+339	5.71E+337
460	1.8808E+261	5.29803E+90	9.9646E+351	6.65E+348
480	7.0819E+274	7.92068E+93	5.6093E+368	8.11E+365
500	4.1674E+287	8.52756E+94	3.5538E+382	1.17E+383
512	8.0805E+295	2.52774E+97	2.0425E+393	2.48E+393
520	6.9570E+303	2.2538E+100	1.568E+404	1.96E+400
560	3.6123E+328	9.5519E+106	3.4505E+435	2.66E+434
600	1.6314E+352	7.3791E+119	1.2038E+472	6.67E+469
640	2.7499E+377	1.0531E+127	2.8960E+504	8.61E+504
720	1.5859E+431	8.9642E+145	1.4216E+577	5.90E+575
800	2.1539E+485	1.1699E+164	2.5198E+649	2.21E+647
880	3.7421E+536	5.6176E+183	2.1021E+720	3.79E+719
960	3.4554E+592	5.3919E+199	1.8631E+792	2.56E+792
1000	8.4246E+618	7.212E+210	6.0758E+829	1.07E+829
1024	8.1733E+633	3.8822E+217	3.1730E+851	1.16E+851
1040	1.1530E+644	2.5762E+223	2.9705E+867	6.01E+865
1120	5.5986E+697	5.3575E+240	2.9995E+938	4.44E+939
1200	8.8528E+754	2.5348E+257	2.2440E+1012	9.45E+1013
1280	5.6373E+809	1.9529E+278	1.1009E+1088	5.38E+1088



	Basis		Total	
N	Constant	Factor	Constant	Trend Line
100	1.98986E+46	7.07097E+13	1.40703E+60	2.304E+60
112	2.24525E+52	8.14351E+15	1.82842E+68	9.672E+68
120	1.26362E+58	2.14848E+17	2.71486E+75	6.374E+74
128	4.05011E+62	1.30987E+18	5.30511E+80	4.727E+80
132	6.09746E+64	1.54458E+19	9.41804E+83	4.244E+83
136	5.29315E+66	1.10257E+20	5.83608E+86	3.914E+86
140	1.28163E+69	1.25744E+20	1.61157E+89	3.703E+89
144	5.28317E+71	7.44015E+19	3.93075E+91	3.592E+92
150	3.35287E+74	2.32235E+22	7.78654E+96	1.135E+97
160	3.15784E+80	9.90354E+23	3.1274E+104	4.02E+104
180	1.71178E+91	3.51695E+27	6.0202E+118	7.50E+119
200	5.5531E+102	1.04327E+33	5.7934E+135	2.25E+135
220	1.0422E+116	5.39489E+34	5.6223E+150	1.03E+151
240	1.4504E+126	6.7308E+41	9.762E+167	6.93E+166
256	1.6346E+136	3.26471E+43	5.3363E+179	4.09E+179
260	6.1475E+138	1.13762E+44	6.9935E+182	6.58E+182
280	4.2128E+149	3.34423E+48	1.4089E+198	8.60E+198
300	4.5160E+163	3.55625E+51	1.606E+215	1.51E+215
320	5.1586E+175	2.12081E+56	1.094E+232	3.47E+231
340	7.8535E+188	6.40733E+58	5.032E+247	1.03E+248
360	3.8183E+200	7.36605E+65	2.8125E+266	3.88E+264
380	5.6198E+212	6.51761E+69	3.6628E+282	1.83E+281
400	1.0299E+225	3.78664E+74	3.8999E+299	1.06E+298
420	3.4272E+237	1.76487E+79	6.0485E+316	7.54E+314
440	3.3562E+249	2.47958E+83	8.3221E+332	6.47E+331
447	6.8163E+253	9.83841E+85	6.7061E+339	5.71E+337
460	1.8808E+261	5.29803E+90	9.9646E+351	6.65E+348
480	7.0819E+274	7.92068E+93	5.6093E+368	8.11E+365
500	4.1674E+287	8.52756E+94	3.5538E+382	1.17E+383
512	8.0805E+295	2.52774E+97	2.0425E+393	2.48E+393
520	6.9570E+303	2.2538E+100	1.568E+404	1.96E+400
560	3.6123E+328	9.5519E+106	3.4505E+435	2.66E+434
600	1.6314E+352	7.3791E+119	1.2038E+472	6.67E+469
640	2.7499E+377	1.0531E+127	2.8960E+504	8.61E+504
680	1.6454E+403	2.7076E+137	4.4551E+540	1.80E+540
720	1.5859E+431	8.9642E+145	1.4216E+577	5.90E+575
760	4.6394E+456	6.0505E+155	2.8071E+612	2.96E+611
800	2.1539E+485	1.1699E+164	2.5198E+649	2.21E+647
840	4.7735E+510	4.3142E+173	2.0594E+684	2.42E+683
880	3.7421E+536	5.6176E+183	2.1021E+720	3.79E+719
920	1.5198E+565	6.9959E+191	1.0633E+757	8.36E+755
960	3.4554E+592	5.3919E+199	1.8631E+792	2.56E+792
1000	8.4246E+618	7.212E+210	6.0758E+829	1.07E+829
1024	8.1733E+633	3.8822E+217	3.1730E+851	1.16E+851
1040	1.1530E+644	2.5762E+223	2.9705E+867	6.01E+865
1080	5.1290E+671	2.7498E+230	1.4104E+902	4.50E+902
1120	5.5986E+697	5.3575E+240	2.9995E+938	4.44E+939
1160	2.5532E+727	5.1554E+248	1.3163E+976	5.70E+976
1200	8.8528E+754	2.5348E+257	2.2440E+1012	9.45E+1013
1240	8.7454E+781	1.4681E+268	1.2839E+1050	2.00E+1051
1280	5.6373E+809	1.9529E+278	1.1009E+1088	5.38E+1088
1300	1.6403E+821	9.1471E+285	1.5004E+1107	3.04E+1107

Beispiele für Verhältnisdifferenzen unter 1:
Examples of ratio of differences below 1 :

Die Werte 1.09132, 1.08002, 1.07992, 1.07712 und 1.07694 wurden nach der numerischen Integration errechnet. Es sind immer mindestens 2 N-Tupel.
The values 1.09132, 1.08002, 1.07992, 1.07712 and 1.07694 were calculated after numerical integration. There are always at least 2 N-tuples.

Prime number(447) = 3163 ==> difference 3163-2 = 3161
447-Tuple ==> difference 3158 ; first ratio under 1 ; ratio = 3158/3161 = 0.99905
6.706128E+339*2*X/[Ln(X)-1.09132]^447 = 1
Erwartunswert ; Expected value 1 ==> X = 5.4076E+1197
6.706128E+339*2*5.4076E+1197/[Ln(5.4076E+1197)-1.09132]^447 = 1.000000098

Prime number(1000) = 7919 ==> difference 7919-2 = 7917
1000-Tuple ==> difference 7802 ; ratio = 7802/7917 = 0.98547
6.0758E+829*2*X/[Ln(X)-1.08002]^1000 = 1
Erwartunswert ; Expected value 1 ==> X = 5.4460E+3010
6.0758E+829*2*5.4460E+3010/[Ln(5.4460E+3010)-1.08002]^1000 = 1.000000603

6.0758E+829*2*X/[Ln(X)- 1.07992]^1000 = 1000
Erwartunswert ; Expected value 1000 ==> X = 1.74391E+3014
6.0758E+829*2*1.74391E+3014/[Ln(1.74391E+3014)- 1.07992]^1000 = 1000.00027

Prime number(1280) = 10459 ==> difference 10459-2 = 10457
1280-Tuple ==> difference 10302 ; ratio = 10302/10457 = 0.98552
1.10090E+1088*2*X/[Ln(X)-1.07712]^1280 = 1
Erwartunswert ; Expected value 1 ==> X = 3.7832E+3983
1.10090E+1088*2*3.7832E+3983/[Ln(3.7832E+3983)-1.07712]^1280 = 1.00000271

Prime number(1300) = 10657 ==> difference 10657-2 = 10655
1280-Tuple ==> difference 10474 ; ratio = 10474/10655 = 0.98301
1.50041E+1107*2*X/[Ln(X)-1.07694]^1300 = 1
Erwartunswert ; Expected value 1 ==> X = 3.31153E+4053
1.50041E+1107*2*3.31153E+4053/[Ln(3.31153E+4053)-1.07694]^1300 = 1.00000091

Die Primzahlendichte kann also grösser sein, als am Anfang mit den kleinen Primzahlen! Eine solche Primzahlenserie zu finden, wird jedoch wohl für immer unmöglich sein.
The prime number density can therefore be greater than it was at the beginning with the small prime numbers! However, finding such a prime number series will probably remain impossible forever.

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