Consideration of the Riemann hypothesis

Toshiro Takami

mmm82889@yahoo.co.jp

Abstract

I considered Riemann's hypothesis. At first, the purpose was to prove, but can not to prove.
It is written in the middle of the proof, but it can not been proved at all.
(The calculation formula is also written, but the real value 0.5 was not shown at all)
The non-trivial zero values match perfectly in the formula of this paper.
However, the formula did not reach the real value 0.5.
In this case, it only reaches the pole near the real value 0.5.

1 Introduction

$$\sum_{n=1}^{\infty}\frac{1}{n^s} \tag{1}$$

s=a+b and a=0.5,　b=x s=a+b　　an a=frac

$$\sum_{n=1}^{\infty}\frac{(-1)^{n-1}}{n^1}=\sum_{n=1}^{\infty}[\frac{1}{(2n-1)^1}-\frac{1}{(2n)^1}] \tag{2}$$

$$\frac{1}{(2n-1)^1}=\frac{(2n-1)^{ix}}{(2n-1)^{\frac{1}{2}}} \tag{3}$$

$$\frac{1}{(2n)^1}=\frac{(2n)^{ix}}{(2n)^{\frac{1}{2}}} \tag{4}$$

$$insert \quad cos\theta+i\sin\theta=e^{i\theta} \tag{5}$$

$$\sum_{n=1}^{\infty}[\frac{cos(x\ ln(2n-1))+i\ sin(x\ ln(2n-1))}{(2n-1)^{\frac{1}{2}}}-\frac{cos(x\ ln(2n))+i\ sin(x\ ln(2n))}{(2n)^{\frac{1}{2}}}] \tag{6}$$

$$\sum_{n=1}^{\infty}[\frac{\sin(x\ ln(2n-1))}{(2n-1)^{\frac{1}{2}}}-\frac{\sin(x\ ln(2n))}{(2n)^{\frac{1}{2}}}] \tag{7}$$

$$\sum_{n=1}^{\infty}[\frac{\cos(x\ ln(2n-1))}{(2n-1)^{\frac{1}{2}}}\ -\ \frac{\cos(x\ ln(2n))}{(2n)^{\frac{1}{2}}}] \tag{8}$$

Although x is treated as a real number, x is a nontrivial zero values.

2 Discussion

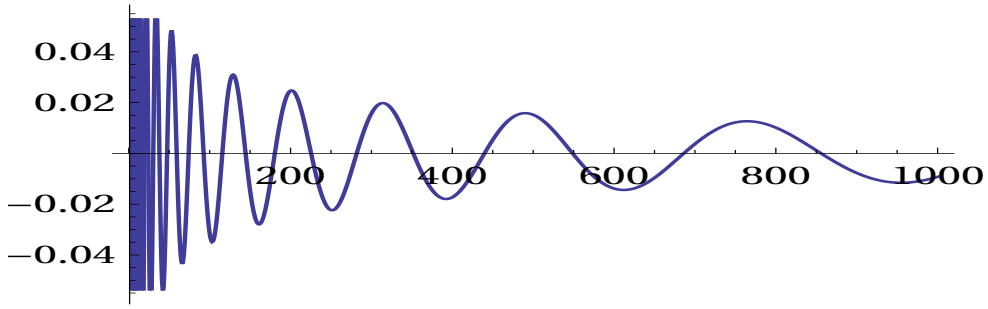
Chapter 1

The following is a numerical confirmation that the above equation is correct.

(14.1347- 0.001)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1337)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(14.1337)\ln(2n)]}{(2n)^{0.5}}] \tag{9}$$

= -0.009225305555779525779463237679646088942314....



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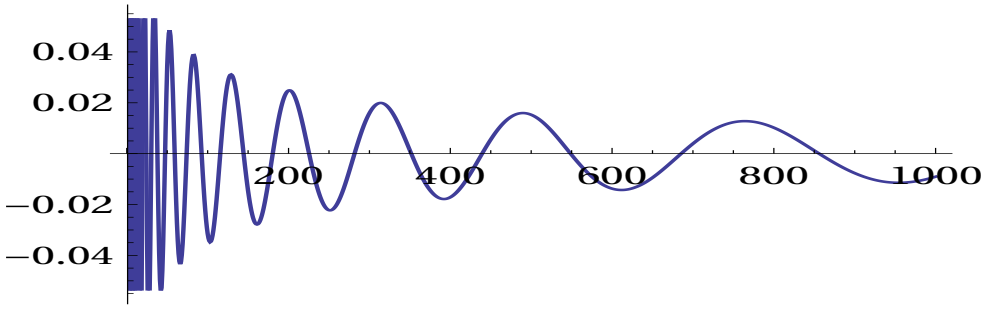
[10000000]= -0.000160711406538551209 1
[100000000]=-0.000150993663540419694 9
not converge

(14.1347 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.5}}] \tag{10}$$

= -0.009063013671335821519956190406232181070163....



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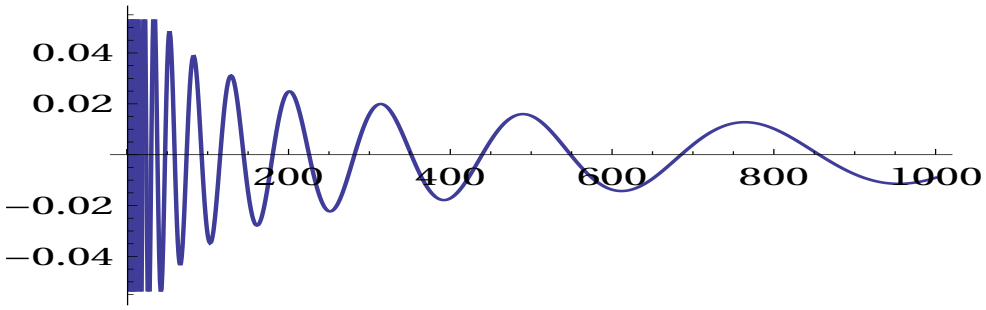
[1000000]=0.0002245632899122298001
[10000000]=-0.0000496479275200912434
[100000000]=0.0000382288508812898928
converge

(14.1347+ 0.01=14.1447)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1447)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(14.1447)\ln(2n)]}{(2n)^{0.5}}] \tag{11}$$

= -0.007243403455155722480043192935285864376....



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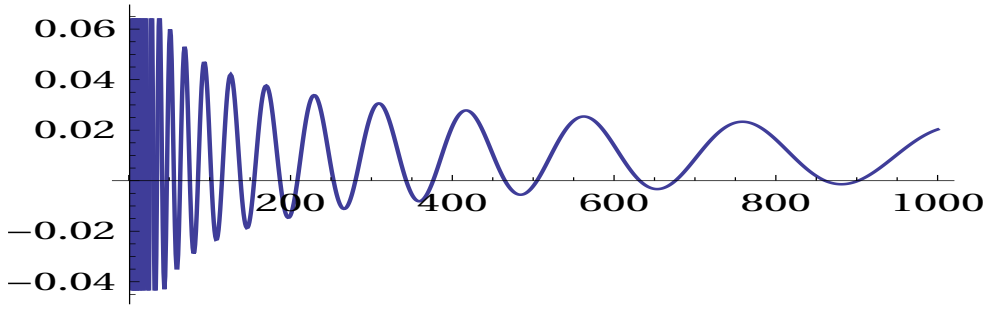
[100000000]=0.001258515454485119224 7
not converge

(21.022 - 0.01=21.012)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0120)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(21.0120)\ln(2n)]}{(2n)^{0.5}}] \tag{12}$$

= 0.020284892554040908827580134599210942 9....



[10000]= 0.0079126943260740684183
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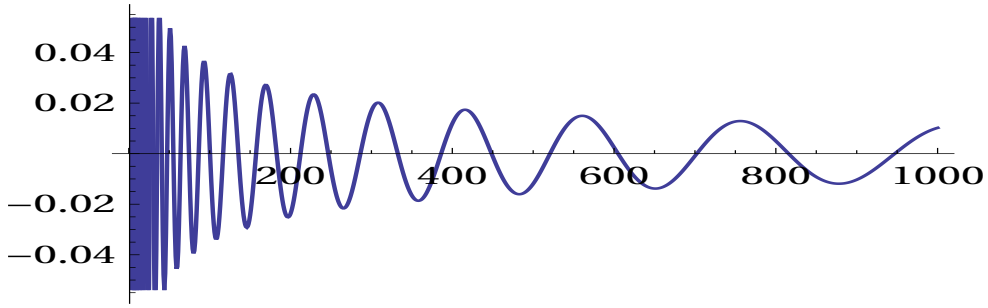
[10000000]= 0.0104843503975115531074
[100000000]=0.0104746550659218524287
not converge

(21.0220 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0220)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(21.0220)\ln(2n)]}{(2n)^{0.5}}] \tag{13}$$

= 0.010203050972979707561650919065336067554 57....



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[1000000]=0.0003817627764431225329
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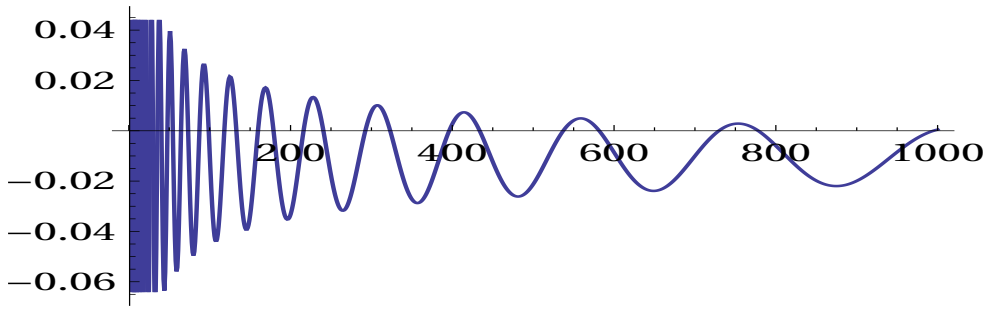
[100000000]=0.0000070544092957442871
converge

(21.0220+0.01=22.0320)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0320)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(21.0320)\ln(2n)]}{(2n)^{0.5}}] \tag{14}$$

0.009213501661674673769220937361896999026864....



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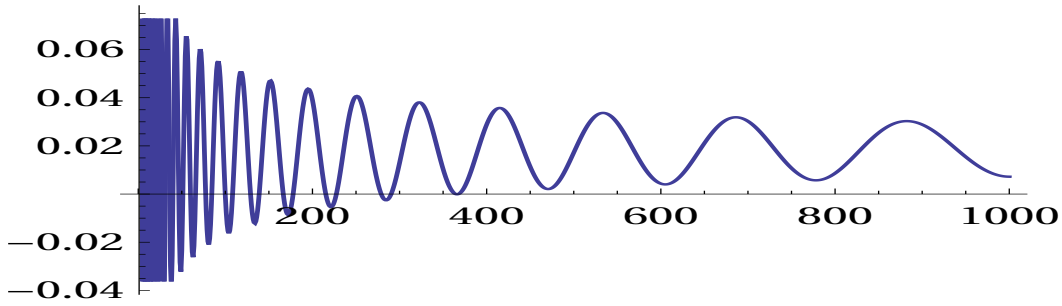
[1000000]=-0.009701481356922623047 7
[10000000]=-0.010009363383511859 7103
[100000000]=-0.010060598820342036 0777
not converge

(25.0109-0.01=25.0009)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0009)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(25.0009)\ln(2n)]}{(2n)^{0.5}}] \tag{15}$$

= 0.007208956867091058558975679870786427234417....



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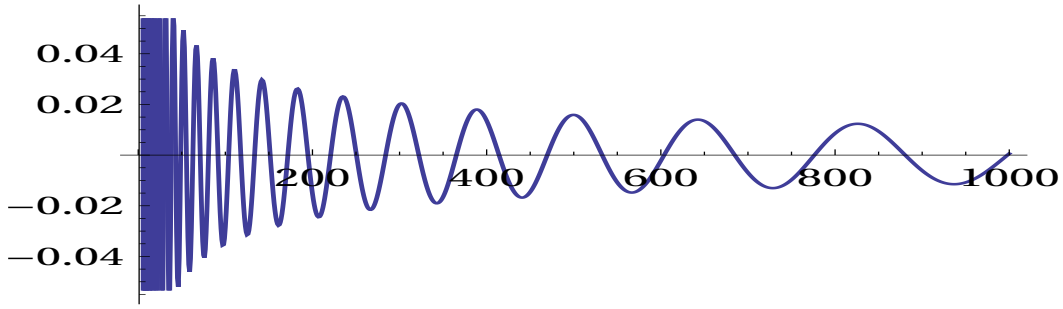
[10000000]=-0.0140059815308212903817
[100000000]=-0.0139521725046484450922
not converge

(25.0109 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0109)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(25.0109)\ln(2n)]}{(2n)^{0.5}}] \tag{16}$$

= 0.000566416876954385417515398449827019508 07....



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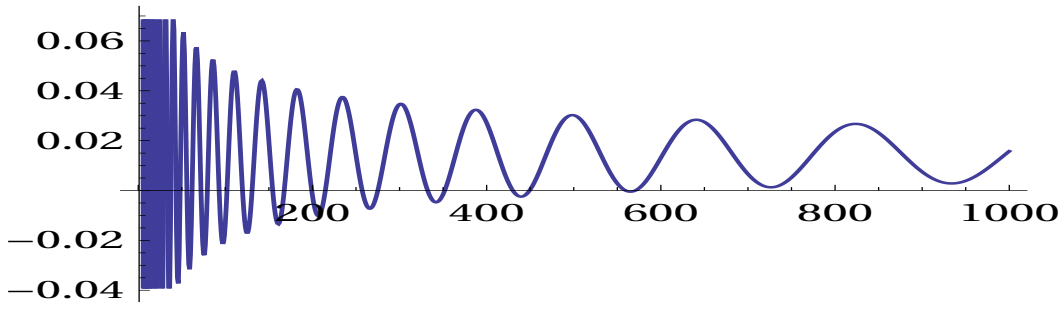
[10000000]=-0.000037554455630730200 4
[100000000]=0.000029600513475824665 8
converge

(25.0109+0.01=25.0209)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0209)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(25.0209)\ln(2n)]}{(2n)^{0.5}}] \tag{17}$$

= 0.015754324638897008068077546402916552259 3....



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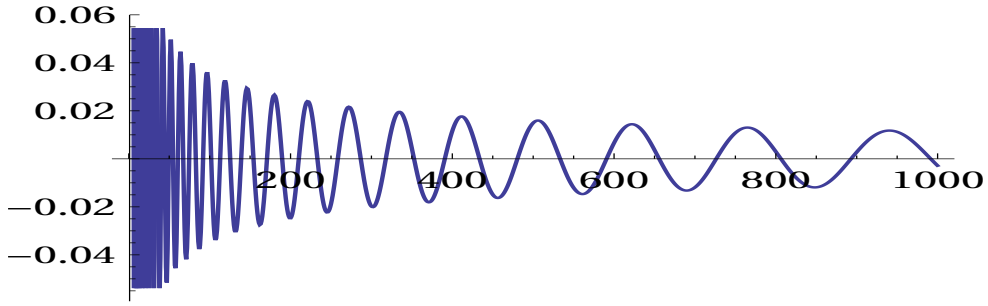
[10000000]=0.014296018128796971966 0
[100000000]=0.014374876276240306644 0
not converge

(30.4249 - 0.01=30.4149)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4149)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(30.4149)\ln(2n)]}{(2n)^{0.5}}] \tag{18}$$

= -0.0028564090182572409517325344565291710 1....



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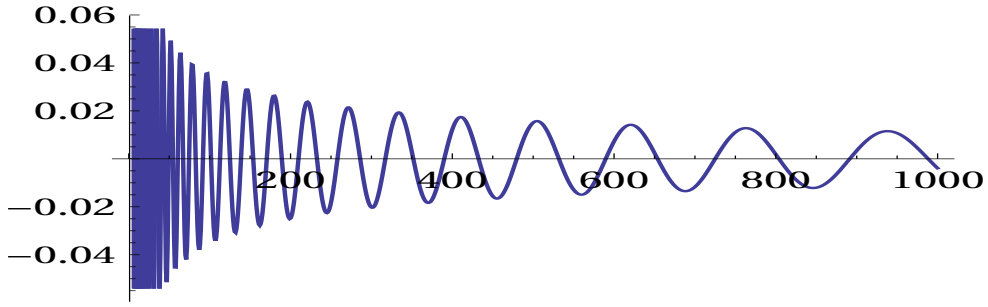
[100000000]=0.0002812429594458024443
not converge

(30.4249 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4249)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(30.4249)\ln(2n)]}{(2n)^{0.5}}] \tag{19}$$

= -0.0039090902351357602935409305501247 7....



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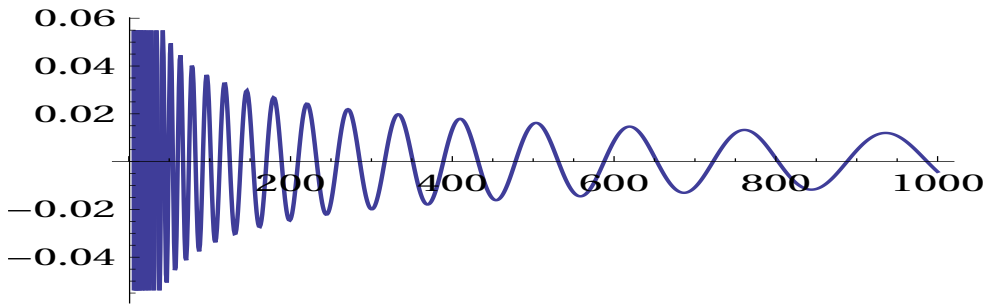
[10000000]=0.0000925555270059981509
[100000000]=0.0000335427373431973819
converge

(30.4249+0.01=30.4349)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4349)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(30.4349)\ln(2n)]}{(2n)^{0.5}}] \tag{20}$$

-0.0042524405261842556507948990598775 58....



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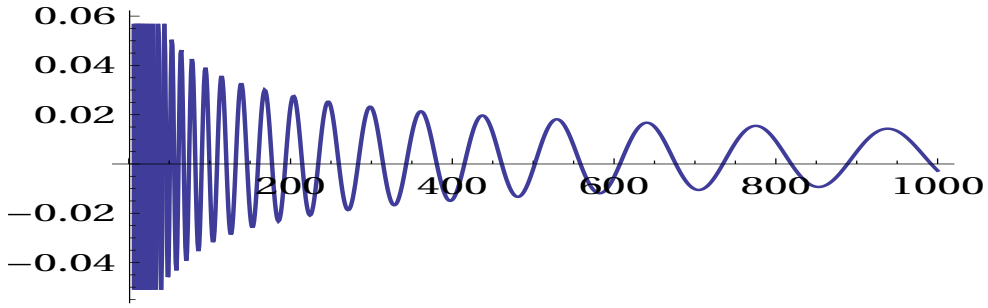
[10000000]=0.00054250307740316098 14
[100000000]=0.00047138395006655951 87
not converge

(32.9351 -0.01=32.9251)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9251)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(32.9251)\ln(2n)]}{(2n)^{0.5}}] \tag{21}$$

= -0.0027020078807583326034090009613837....



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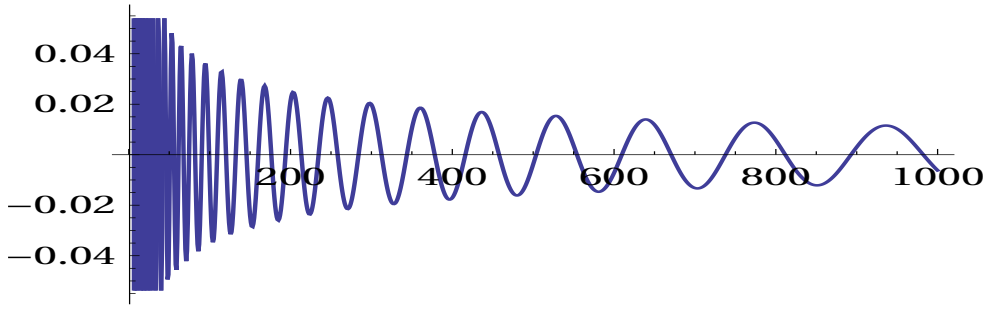
[10000000]=0.002683055145115045576 2
[100000000]=0.002756942119908840308 6
not converge

(32.9351 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9351)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(32.9351)\ln(2n)]}{(2n)^{0.5}}] \tag{22}$$

= -0.006211350232338428548135531520246 2....



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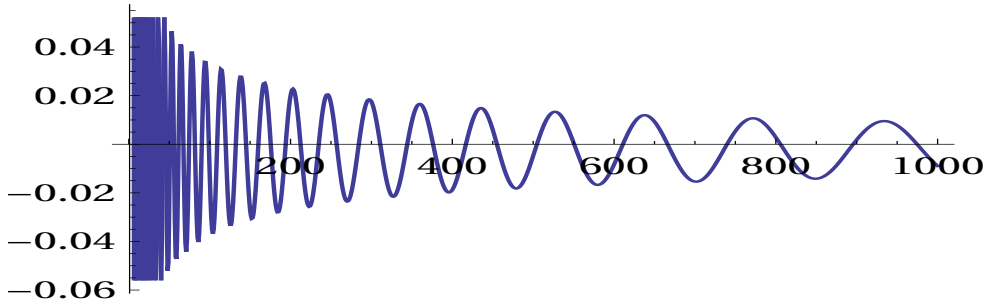
[1000000]=-0.0003446395140902848734
[10000000]=-0.0000903248133043883523
[100000000]=-0.0000221594074273025880
converge

(32.9351+0.01= 32.9451)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9451)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(32.9451)\ln(2n)]}{(2n)^{0.5}}] \tag{23}$$

= -0.008931280247269008024066371515947 13....



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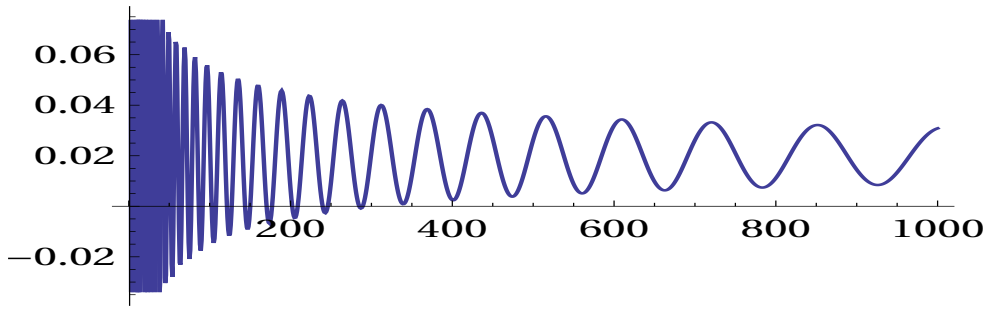
[10000000]=-0.002107823633125656 0571
[100000000]=-0.002047195604632193 1888
not converge

(37.5862- 0.01= 37.5762)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5762)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(37.5762)\ln(2n)]}{(2n)^{0.5}}] \tag{24}$$

0.03083401506214361782561915309792 3....



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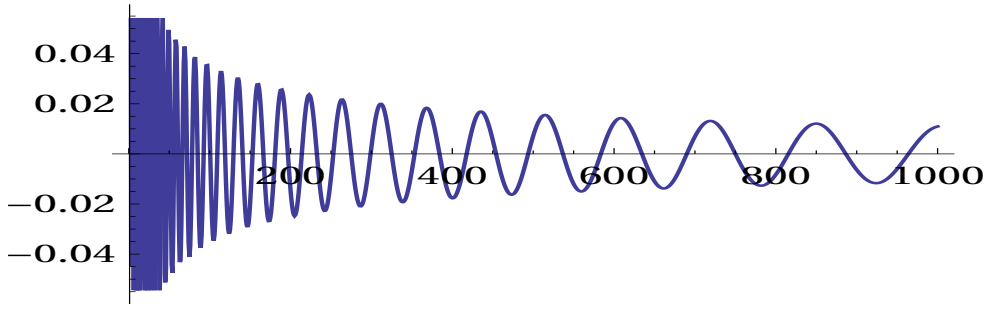
[100000000]=0.0200503760585013374174
not converge

(37.5862 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5862)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(37.5862)\ln(2n)]}{(2n)^{0.5}}] \tag{25}$$

0.01094179539026480827799190174599114 28....



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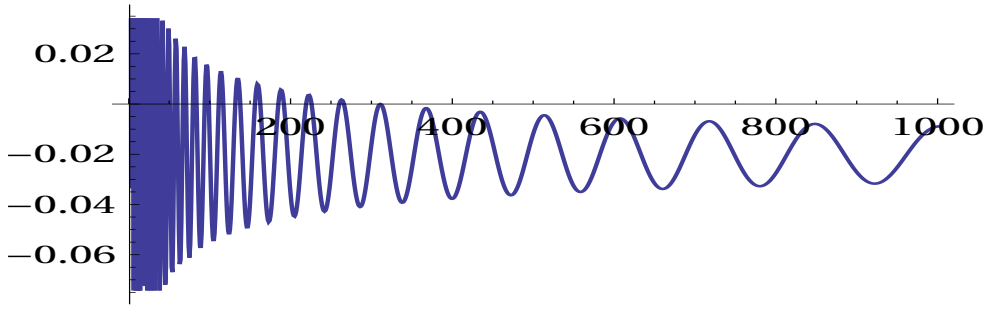
[1000000]=-0.000134341606145 1328184
[10000000]=0.000058716717248 9908842
[100000000]=-0.000024945916912 9748873
converge

(37.5862 +0.01= 37.5962)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5962)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(37.5962)\ln(2n)]}{(2n)^{0.5}}] \tag{26}$$

= -0.00894602089682195247379395232735 62....



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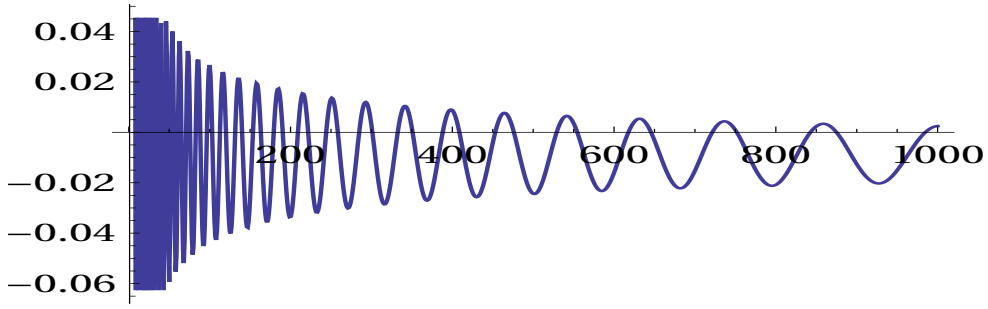
[1000000]=-0.020196304613078114309 5
[10000000]=-0.019963698911792331081 0
[100000000]=-0.020033109532961002052 8
not converge

(40.9187 -0.01= 40.9087)

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9087)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(40.9087)\ln(2n)]}{(2n)^{0.5}}] \tag{27}$$

=0.00248093561144567463626037082051005....



[10000]=-0.005167783348978101203 0
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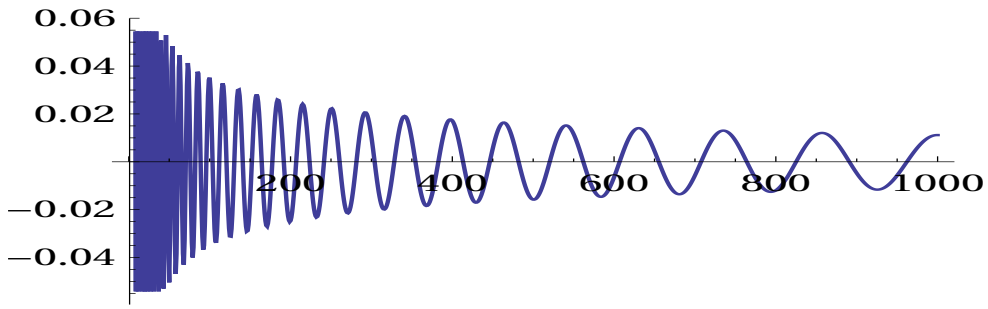
[10000000]=-0.008568046737592489858 8
[100000000]=-0.008642018950006009198 1
not converge

(40.9187 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9187)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(40.9187)\ln(2n)]}{(2n)^{0.5}}] \tag{28}$$

= 0.011161443040664347323838871759731....



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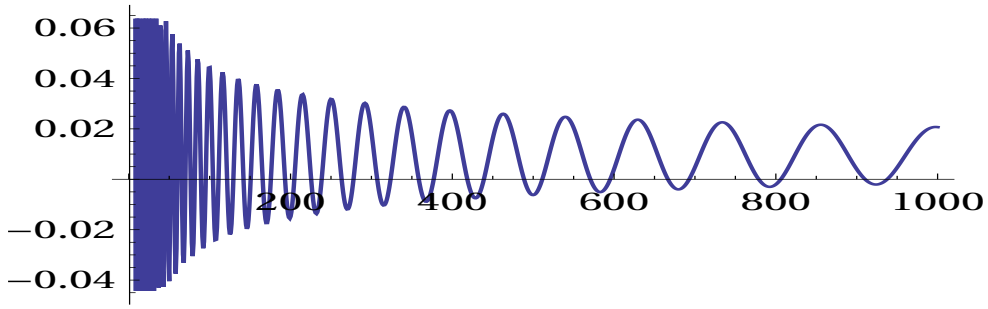
[10000000]=0.0000937391247718045875
[100000000]=0.000017660473451030 5102
converge

(40.9187 +0.01= 40.9287)

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9287)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(40.9287)\ln(2n)]}{(2n)^{0.5}}] \tag{29}$$

= 0.020687831213847101540936884668 6....



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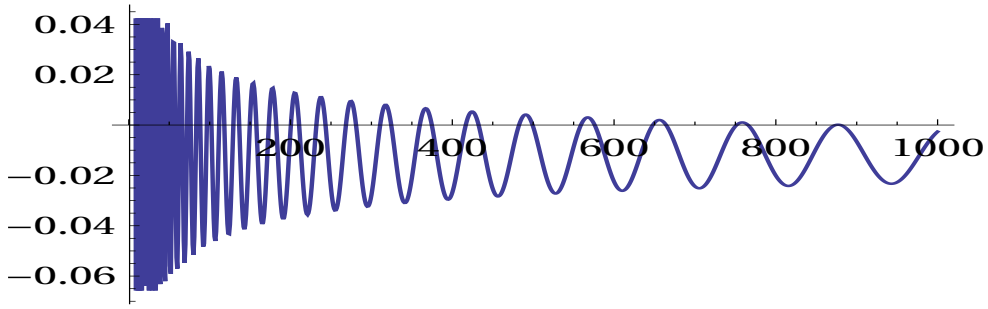
[10000000]=0.009662831167002216 0734
[100000000]=0.009586503244944534 8323
not converge

(43.3271 -0.01= 43.3171)

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3171)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(43.3171)\ln(2n)]}{(2n)^{0.5}}] \tag{30}$$

= -0.00262718446428192447061238726 47....



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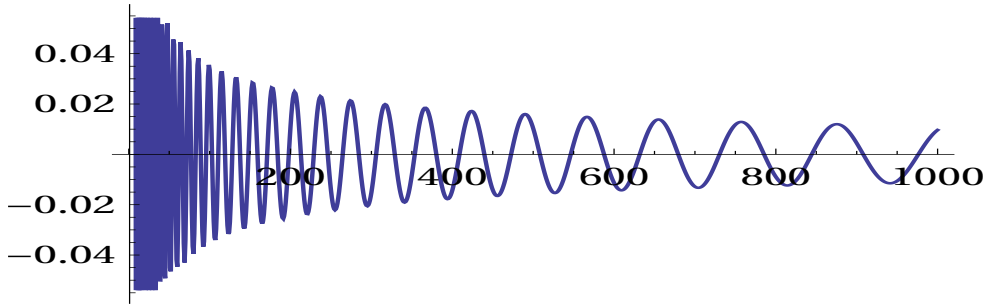
[1000000]=-0.012156828353971655 5375
[10000000]=-0.011897480026873120 2568
[100000000]=-0.011812625215642354 8756
not converge

(43.3271 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3271)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(43.3271)\ln(2n)]}{(2n)^{0.5}}] \tag{31}$$

= 0.00967090626015688414351433031 1804340....



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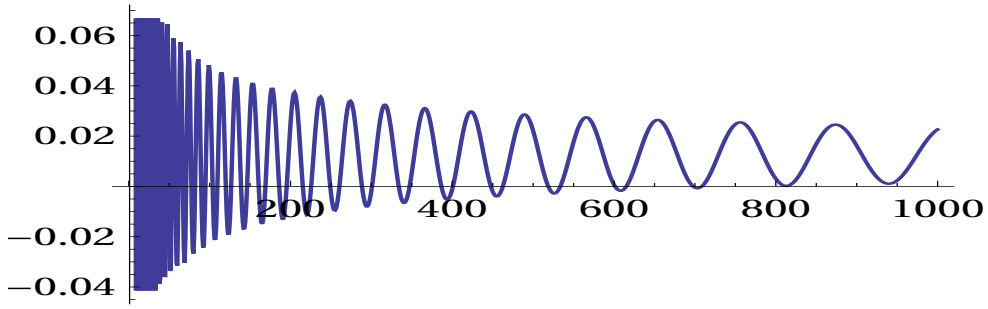
[1000000]=-0.0003051887688908388216
[10000000]=-0.0000672058546933808392
converge

(43.3271 +0.01= 43.3371)

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3371)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(43.3371)\ln(2n)]}{(2n)^{0.5}}] \tag{32}$$

= 0.009670906260156884143514330311 8....

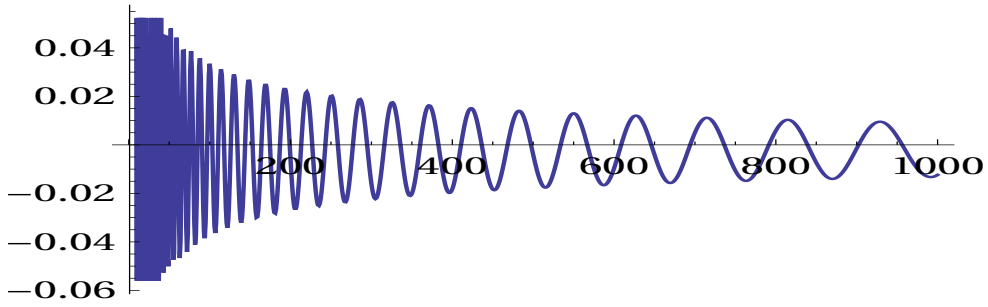


[10000]=0.0138611334436689482424
[100000]=0.0121914127967915099371
[1000000]= 0.012289492830283882396 4
[10000000]=0.012501826510261116950 9
not converge

(48.0052 -0.01=47.9952)

$$\sum_{n=1}^{1000}[\frac{\cos[(47.9952)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(47.9952)\ln(2n)]}{(2n)^{0.5}}] \tag{33}$$

= -0.012377763685720218921643303546....

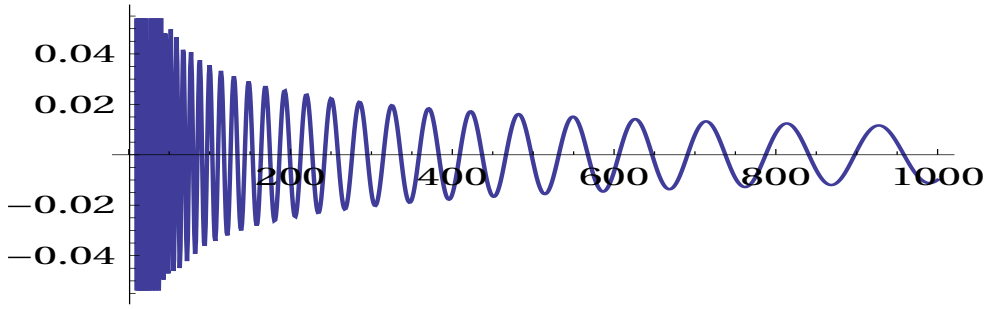


[10000]=0.0000285799991242556995
[100000]=-0.0021376413863578289966
[1000000]=-0.0022192255925806937331
[10000000]=-0.0019585239647509334292
not converge

(48.0052 is non-trivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(48.0052)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(48.0052)\ln(2n)]}{(2n)^{0.5}}] \tag{34}$$

= -0.009954710963835234494265321374....

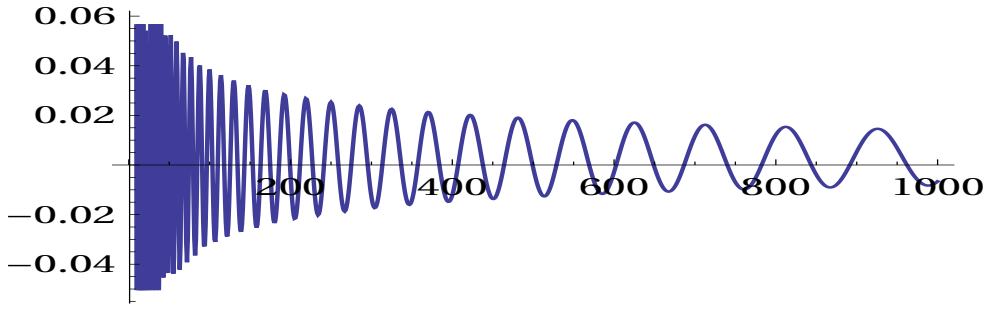


[10000]=0.0018032285340410843938
[100000]=0.0000660014107200388242
[1000000]=-0.0001954933851270815727
[10000000]=0.0001168501874528188322
[100000000]=-0.0000222158682941726699
converge

(48.0052 +0.01=48.0152)

$$\sum_{n=1}^{1000}[\frac{\cos[(48.0152)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(48.0152)\ln(2n)]}{(2n)^{0.5}}] \tag{35}$$

= -0.006597815652933799915294435589....

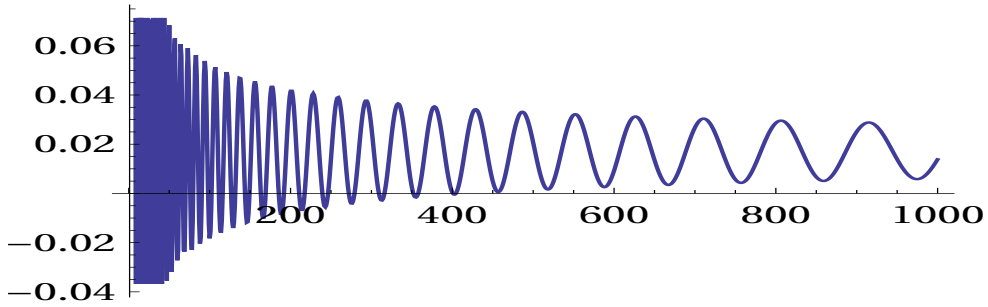


[10000]= 0.004436609451601607884 1
[100000]=0.003145128502502252555 0
[1000000]=0.002708888632252643910 4
[10000000]=0.003065559934436537081 1
[100000000]=0.002923420376922195636 9
not converge

(49.7738- 0.01=49.7638)

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7638)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(49.7638)\ln(2n)]}{(2n)^{0.5}}] \tag{36}$$

= 0.013838181877048842824089368339....

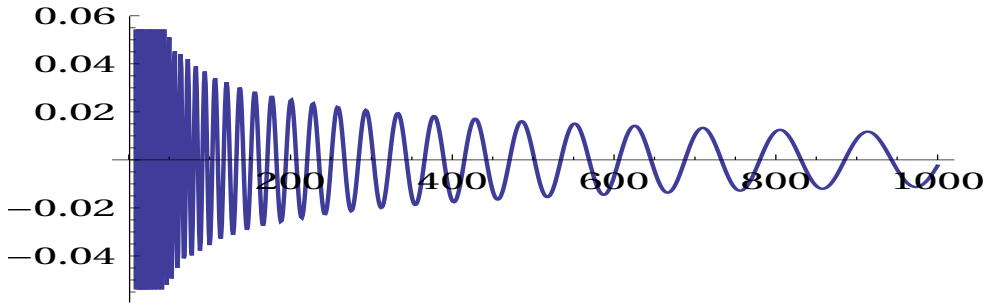


[10000]=0.020403758923646021783 4
[100000]=0.017652448395997277774 7
[1000000]=0.016839165869566175698 4
[10000000]=0.017071601396788208676 6
[100000000]=0.017165092076171818702 4
not converge

(49.7738 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7738)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(49.7738)\ln(2n)]}{(2n)^{0.5}}] \tag{37}$$

= -0.00242552247843460002977902405986....

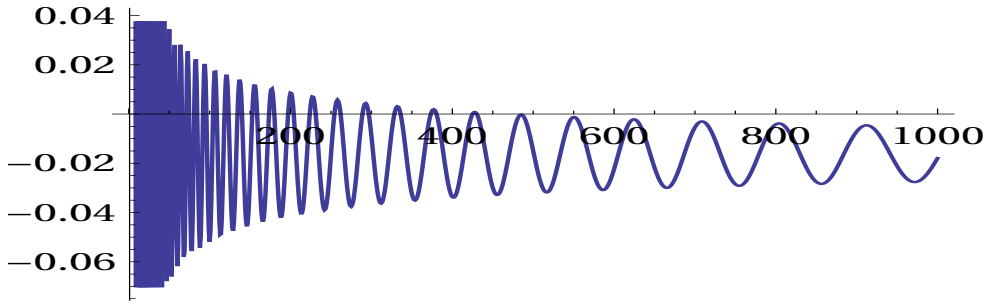


[10000]=0.003437461379815560241 8
[100000]=0.000443350827807394913 4
[1000000]=-0.000269226955820849782 7
[10000000]=0.000003144836460687290 6
[100000000]=0.000001697110937629287 3
converge

(49.7738+ 0.01=49.7838)

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7838)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(49.7838)\ln(2n)]}{(2n)^{0.5}}] \tag{38}$$

= -0.017925530427917274476344602323795 46....

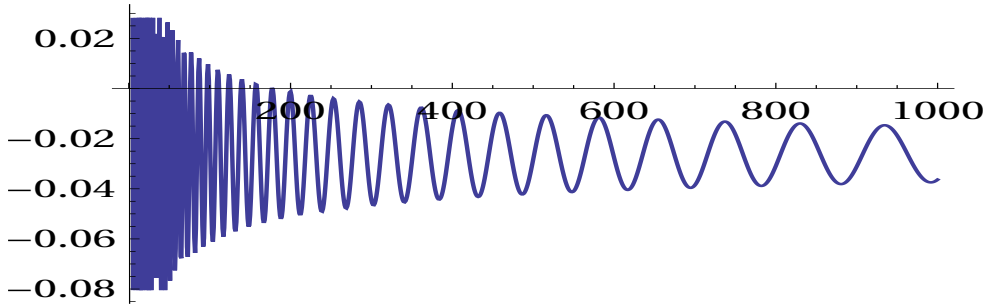


[10000]=-0.0128126155902118996077
[100000]=-0.0160221607044494576688
[1000000]=-0.0166214463360710926199
[10000000]=-0.0163144944504915699601
[100000000]=-0.0162474302505595455398
not converge

(52.9703 -0.01=52.9603)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{39}$$

= -0.036355181418336957787246132966042....

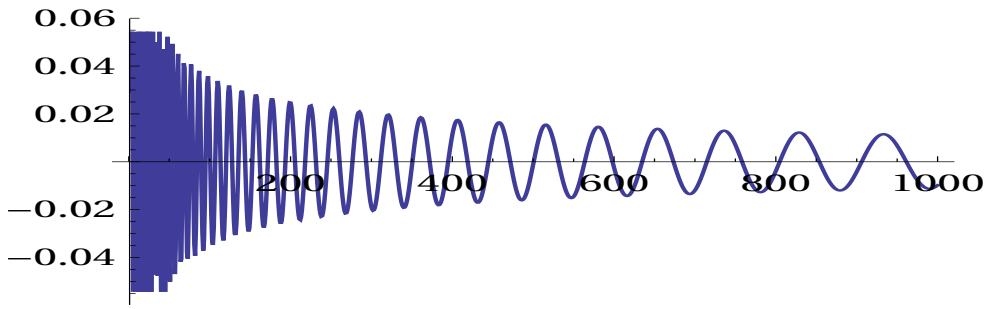


[10000]=-0.022724393014825275 4053
[100000]=-0.027051215817451498 8351
[1000000]=-0.026126518804128518 5971
[10000000]=-0.026184166125998539 7647
[100000000]=-0.026246061598342640 4085
not converge

(52.9703 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9703)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(52.9703)\ln(2n)]}{(2n)^{0.5}}] \tag{40}$$

=0.009478520014068748098587 4....

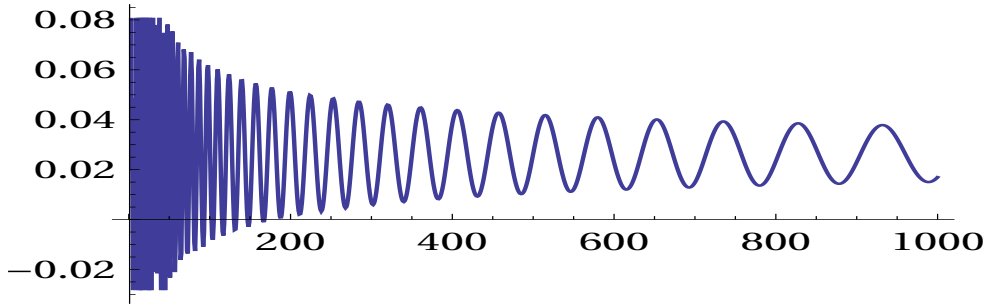


[10000]=0.0034739734404261226469
[100000]=-0.0009736503195389328066
[1000000]=0.0000840864838235658814
[10000000]=-0.0000402288186734236711
[100000000]=-0.0000791109926 464973008
converge

(52.9703+ 0.01=52.9803)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9803)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(52.9803)\ln(2n)]}{(2n)^{0.5}}] \tag{41}$$

= -0.025638210257456366874529600147.....

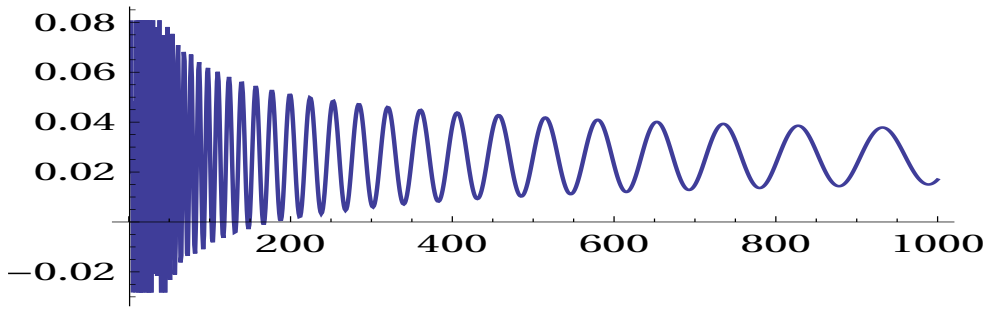


[10000]=0.0298009149632027132981
[100000]=0.0252807368145561497941
[1000000]=0.0264549124817869858728
[10000000]=0.0262664254861674946462
[100000000]=0.0262518399485283625283
not converge

(56.4462- 0.01=56.4362)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{42}$$

= 0.026613628503627737189719746367 37....

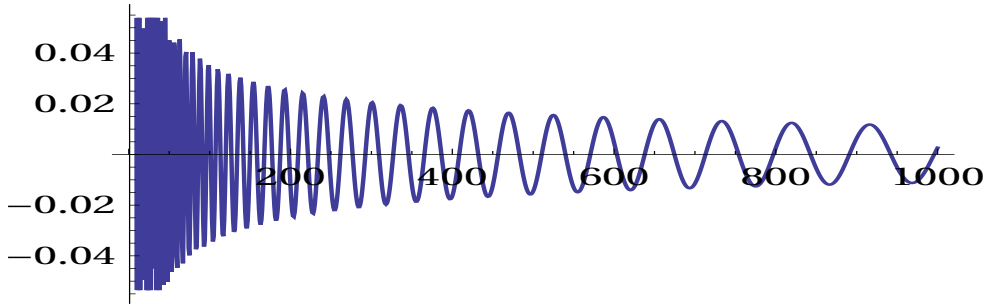


[10000]=0.0215213375849595336953
[100000]=0.0256454199486976612554
[1000000]=0.0250592910221035559959
[10000000]=0.024800539648018208 4551
[100000000]=0.0249269290298672584194
not converge

(56.4462 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{43}$$

= 0.0026518413102086547400105492 9688....

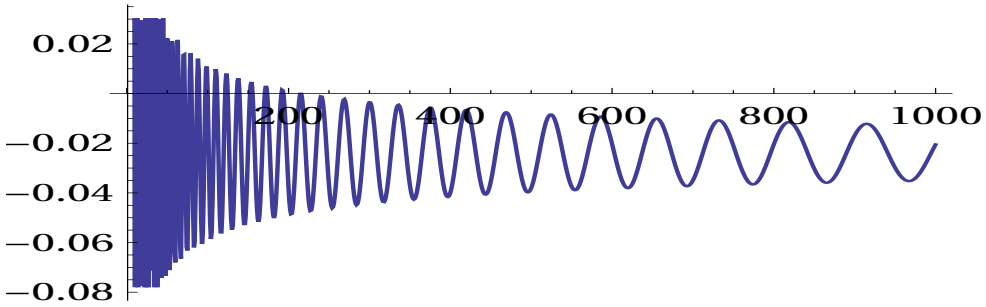


[10000]=-0.0033569416558486631433
[100000)=0.0007412009666034661236
[1000000]=0.0003082564029241538104
[10000000]=0.0000061648527900334994
[100000000]=0.0001245625213175247570
converge

(56.4462+ 0.01=56.4562)

$$\sum_{n=1}^{1000}[\frac{\cos[(56.4562)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(56.4562)\ln(2n)]}{(2n)^{0.5}}] \tag{44}$$

= -0.020518507917862853064414308975874....

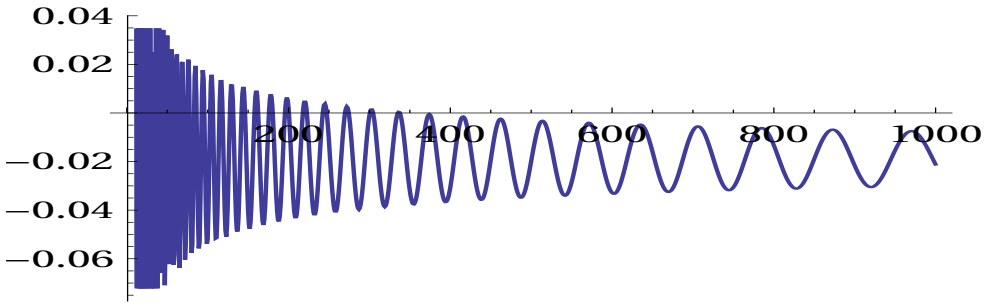


[10000]=-0.0273951025018738907046
[100000]=-0.0233662356193842200847
[1000000]=-0.0236407303330016561882
[10000000]=-0.0239790227111441045516
[100000000]=-0.0238720224947596565412
not converge

(59.3470 -0.01=59.3370)

$$\sum_{n=1}^{1000}[\frac{\cos[(59.337)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(59.337)\ln(2n)]}{(2n)^{0.5}}] \tag{45}$$

= -0.021175444078681470090466446598 13....

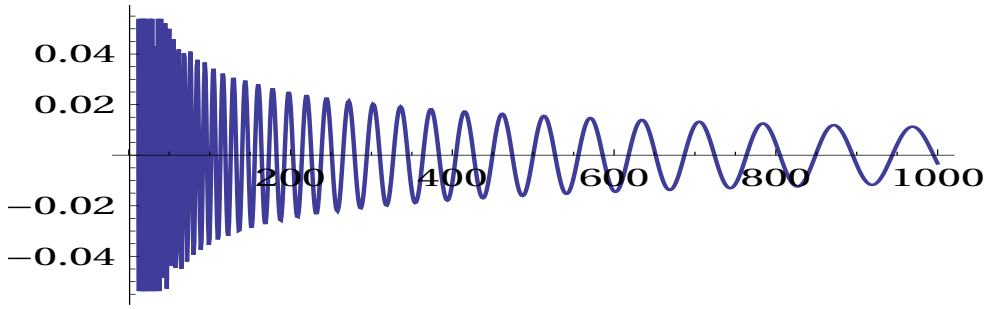


[10000]=-0.015347093530164262 3372
[100000]=-0.018683234503513303 9202
[1000000]=-0.019185109246576837 6105
[10000000]=-0.018841620725952832 4658
[100000000]=-0.018798136991556874 8141
not converge

(59.3470 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(59.347)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(59.347)\ln(2n)]}{(2n)^{0.5}}] \tag{46}$$

= -0.00324939742781742626257297031928....

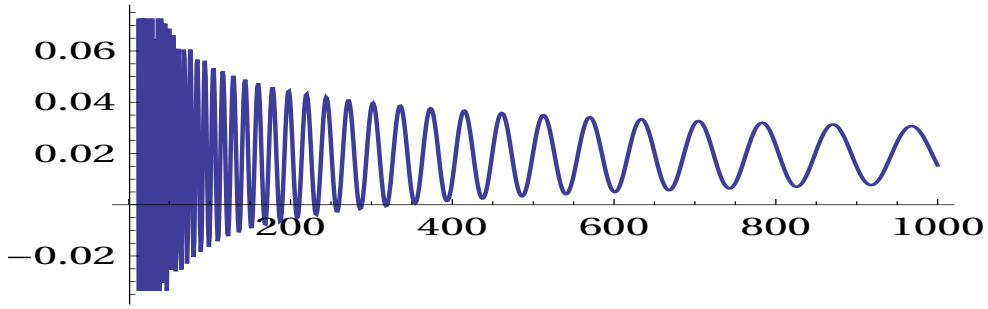


[10000]=0.0033272037996214297653
[100000]=0.0001999944676262767817
[1000000]=-0.0004266637864907864286
[10000000]=-0.000110711O726185287755
[100000000]=-0.000049612187917536436 2
converge

(59.3470 +0.01=59.3570)

$$\sum_{n=1}^{1000}[\frac{\cos[(59.357)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(59.357)\ln(2n)]}{(2n)^{0.5}}] \tag{47}$$

= 0.015367463727157590145364138880942 6....

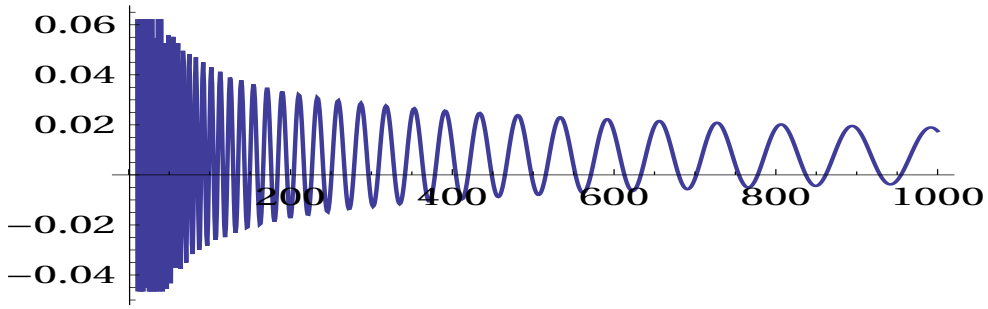


[10000]=0.022640605980271066854 9
[100000]=0.019751531911313520428 8
[1000000]=0.019011516493472220557 0
[10000000]=0.019293485995044584030 4
[100000000]=0.019370194331578965973 9
not converge

(60.8318 -0.01=60.8218)

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8218)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(60.8218)\ln(2n)]}{(2n)^{0.5}}] \tag{48}$$

= 0.017535560535969578881737935277711....

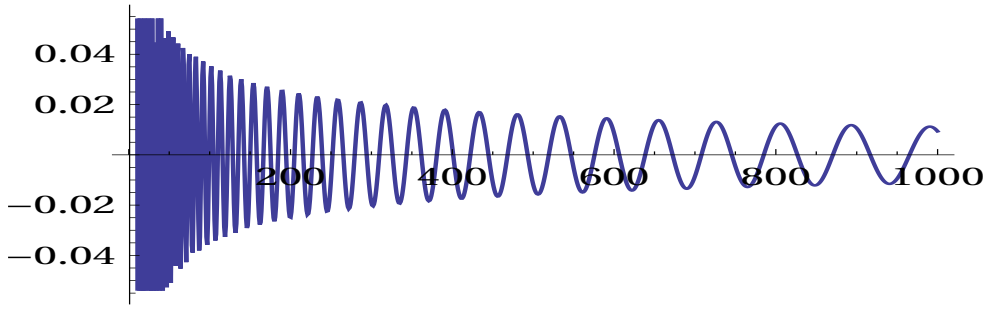


[10000]=0.0053634168996513102365
[100000]=0.007109729055579180371
[1000000]=0.008065613745953006952 2
[10000000]=0.007743853421453376732 8
[100000000]=0.007697906272385283618 6
not converge

(60.8318 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8318)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(60.8318)\ln(2n)]}{(2n)^{0.5}}] \tag{49}$$

= 0.009350453395631120028330356599623 20....

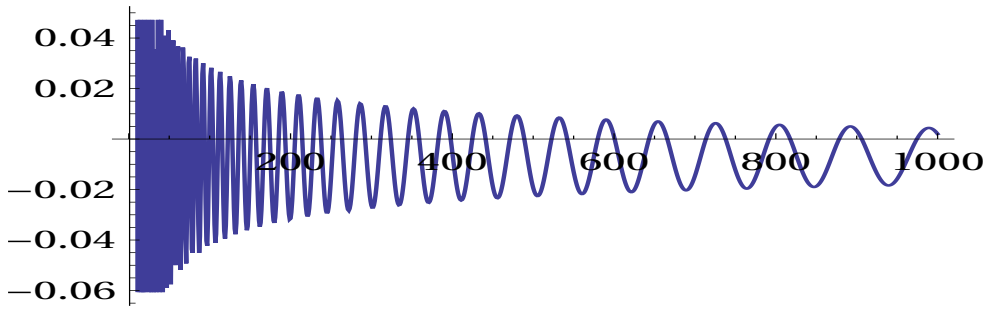


[10000]=-0.002632948991069503780 2
[100000]=-0.000521142704765876346 7
[1000000]=0.000330865068159751996 4
[10000000]=-0.000023450436757911728 7
[100000000]=-0.000048999791468433071 73
. . . . . converge

(60.8318 +0.01=60.8418)

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8418)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(60.8418)\ln(2n)]}{(2n)^{0.5}}] \tag{50}$$

= 0.00203403248728673701597324233170631 80....

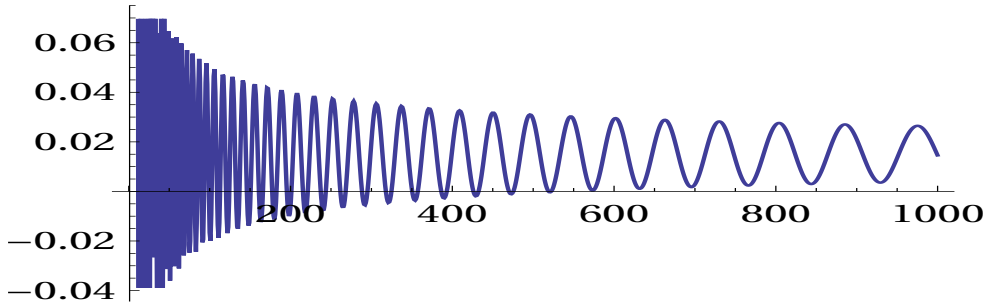


[10000]=-0.009680890296109556 3006
[100000]=-0.007221717396379519 3783
[1000000]=-0.006488389888411534 2315
[10000000]=-0.006867759299354036 5410
[100000000]=-0.006871912484246664 4543
not converge

(65.1125 -0.01=65.1025)

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1025)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(65.1025)\ln(2n)]}{(2n)^{0.5}}] \tag{51}$$

= 0.01455354766716725850019791519965069408....

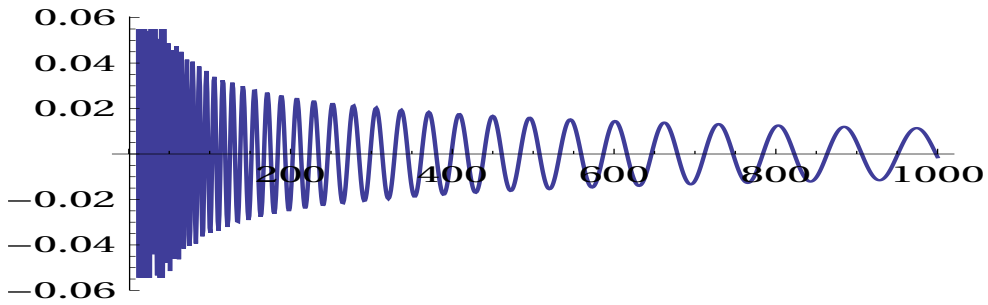


[10000]=0.017813066213943299 5039
[100000]=0.016248499294891100 7027
[1000000]=0.015317831629496304 5435
[10000000]=0.015105301227293184 0715
[100000000]=0.015114015191075687 9994
not converge

(65.1125 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1125)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(65.1125)\ln(2n)]}{(2n)^{0.5}}] \tag{52}$$

= -0.0013760257837058265259987472825....

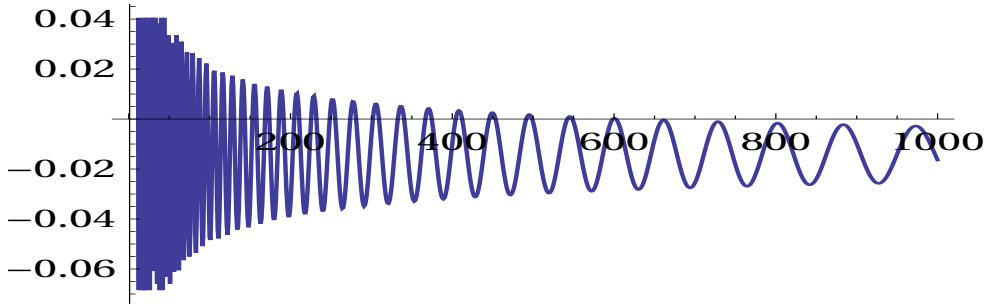


[10000]=0.0024868485483015901651
[100000]=0.0011808038497076905112
[1000000]=0.0002774053647495089620
[10000000]=0.0000397292122541242009
[100000000]=0.0000330684738521100997
converge

(65.1125 +0.01=65.1225)

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1225)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(65.1225)\ln(2n)]}{(2n)^{0.5}}] \tag{53}$$

= -0.016393718890422239775885440360255 66....

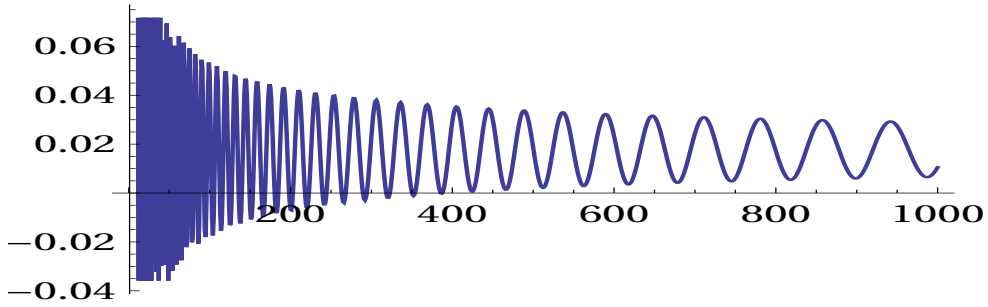


[10000]=-0.011959546759986533 4929
[100000]=-0.012999941574092174 0736
[1000000]=-0.013863934007754728 7833
[10000000]=-0.014121583994190381 1144
[100000000]=-0.014143173409602175 2972
not converge

(67.0798 -0.01=67.0698)

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0698)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(67.0698)\ln(2n)]}{(2n)^{0.5}}] \tag{54}$$

= 0.010543401012985978748273709953560 65....

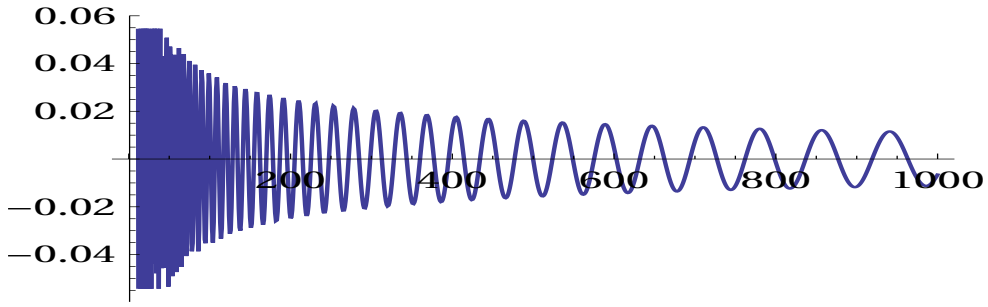


[10000]=0.0185272576419921730650
[100000]=0.0180575446703839549711
[1000000]=0.017508793629079540 1217
[10000000]=0.017861520962904435 5277
[100000000]=0.017720166217365551 6419
not converge

(67.0798 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0798)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(67.0798)\ln(2n)]}{(2n)^{0.5}}] \tag{55}$$

= -0.006523754229361230117729034342 5925....

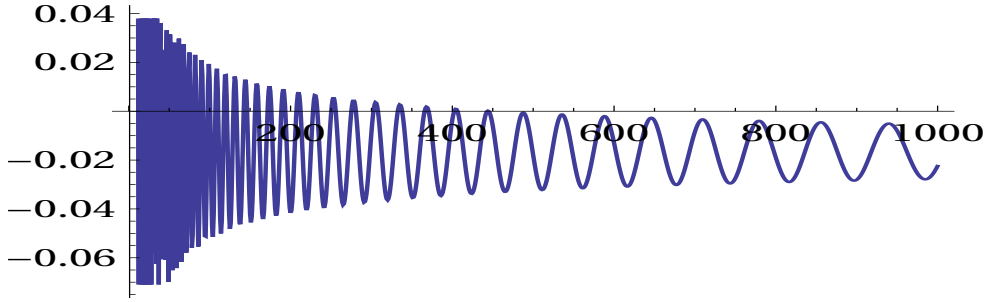


[10000]=0.0004455620242284032877
[100000]=0.0004495504034751115607
[1000000]=-0.0002621111366443582480
[10000000]=0.0001288477260946204589
[100000000]=-0.0000147163868139592400
converge

(67.0798 +0.01=67.0898)

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0898)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(67.0898)\ln(2n)]}{(2n)^{0.5}}] \tag{56}$$

= -0.022435645618969822822622562110867639....

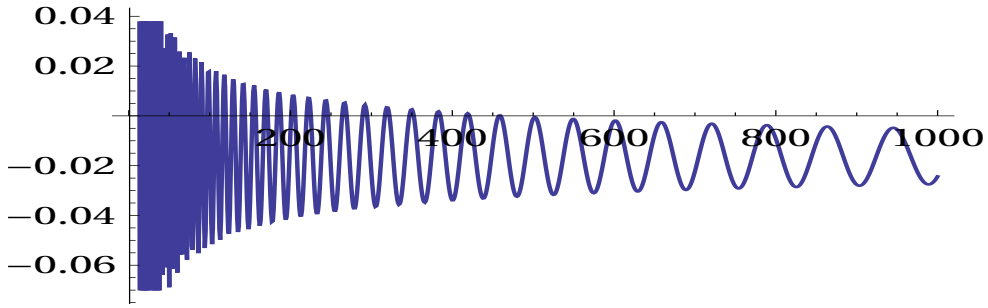


[10000]=-0.0165228379532093849758
[100000]=-0.0160473792921948035795
[1000000]=-0.0169096431198623928238
[10000000]=-0.0164894634928593915302
[100000000]=-0.0166309192179651989252
not converge

(69.5464 -0.01= 69.5364)

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5364)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(69.5364)\ln(2n)]}{(2n)^{0.5}}] \tag{57}$$

= -0.024329757796205405956618433175730325 9....

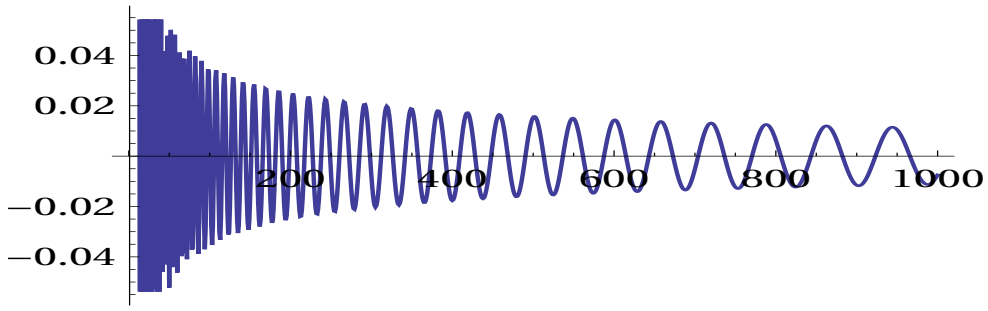


[10000]=-0.0134734792416161801992
[100000]=-0.0172578985580090112084
[1000000]=-0.0159753770631393052226
[10000000]=-0.0164030485920629576224
[100000000]=-0.0162623947872419447047
not converge

(69.5464 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5464)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(69.5464)\ln(2n)]}{(2n)^{0.5}}] \tag{58}$$

= -0.007421949818682513341087904880751 53....

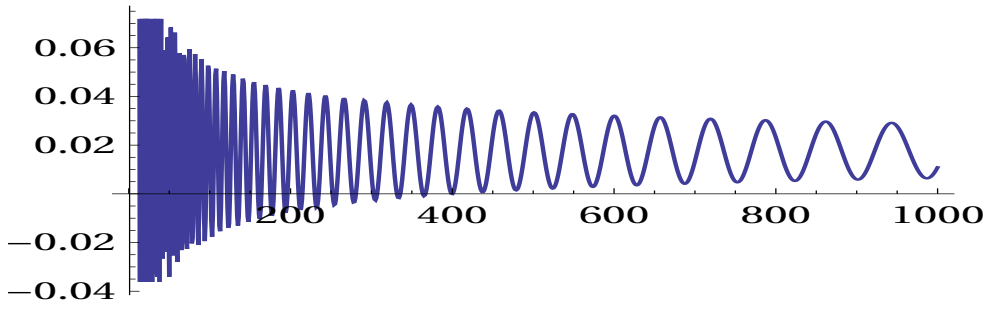


[10000]=0.0025963455525007681293
[100000)=-0.000887121136705024 0836
[1000000]=0.0002940474711544655657
[10000000]=-0.000101606220365007 9822
[100000000]=0.000029602517015756 9742
converge

(69.5464 +0.01=69.5564)

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5564)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(69.5564)\ln(2n)]}{(2n)^{0.5}}] \tag{59}$$

= 0.010867804829161603203853104882137222....

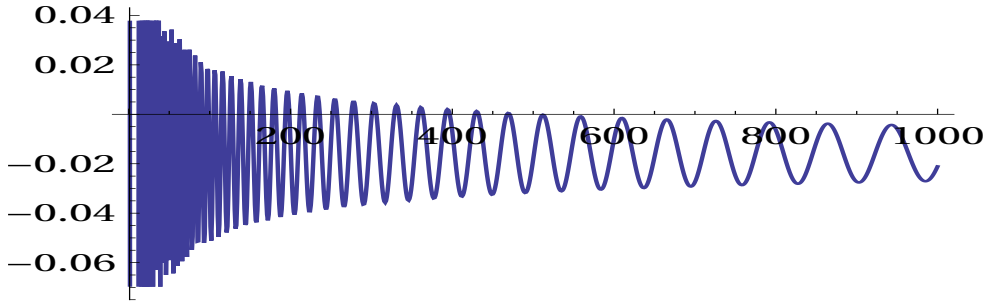


[10000]=0.019979799696832153 9546
[100000]=0.016835915584257163 3910
[1000000]=0.017896333953467926 5197
[10000000]=0.017541720947073988 9066
[100000000]=0.017659517707641313 1778
not converge

(72.0672 -0.01=72.0572)

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0572)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(72.0572)\ln(2n)]}{(2n)^{0.5}}] \tag{60}$$

= -0.021074303355164701436494140152279 6....

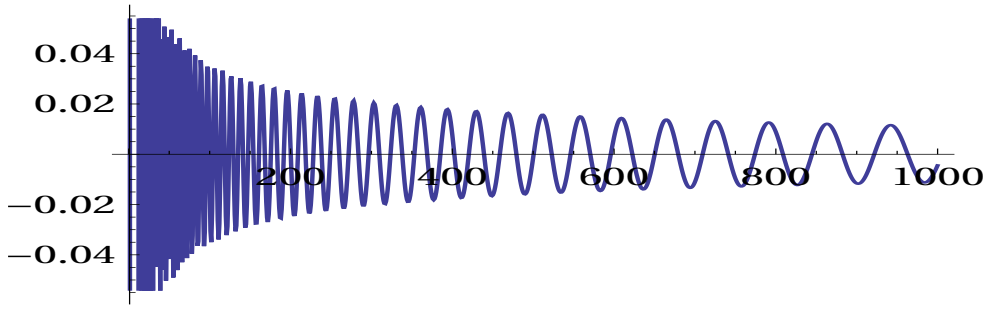


[10000]=-0.012671377532791149034 3
[100000]=-0.016922076005184229219 3
[1000000]=-0.015539767387209819232 7
[10000000]=-0.015842504924397642074 3
[100000000]=-0.015821272960497959753 1
not converge

(72.0672 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0672)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(72.0672)\ln(2n)]}{(2n)^{0.5}}] \tag{61}$$

= -0.004433077941905571139525695057394011....

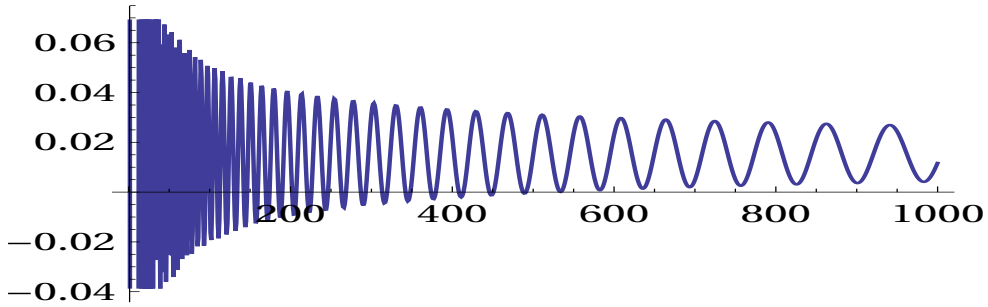


[10000]=0.003029428532427709801 9
[100000]=-0.001051853518954409772 9
[1000000]=0.000367145681441155113 5
[10000000]=0.000016945560383392244 8
[100000000]=0.000062280204802060232 4
converge

(72.0672 +0.01=72.0772)

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0672)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(72.0672)\ln(2n)]}{(2n)^{0.5}}] \tag{62}$$

= 0.011703636767921699052293328063332 32....

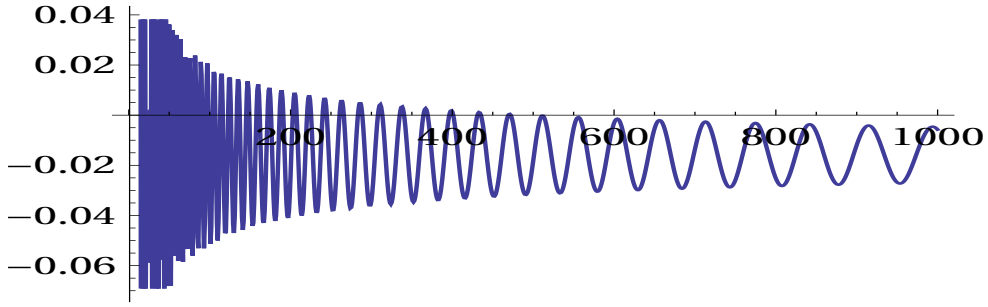


[10000]=0.0181707007646028824432
[100000=0.0143045111219020221194
[1000000]=0.0157372394547144987820
[10000000]=0.0153472886281138462539
[100000000]=0.0154154791762151199136
not converge

(75.7047 -0.01=75.6947)

$$\sum_{n=1}^{1000}[\frac{\cos[(75.6947)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(75.6947)\ln(2n)]}{(2n)^{0.5}}] \tag{63}$$

= -0.005767602040275194888056795583206626735159....

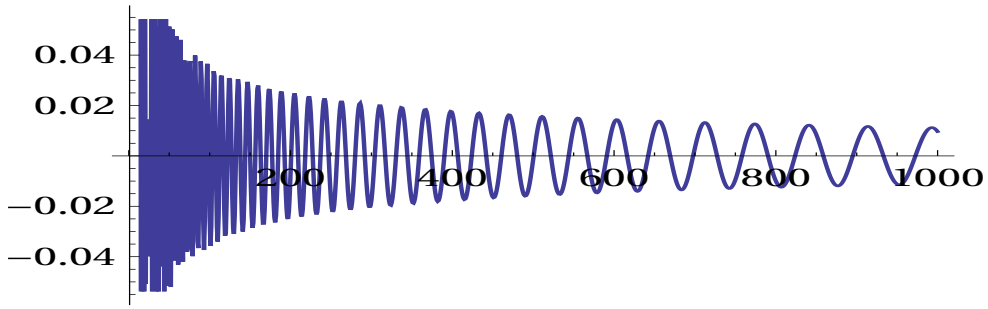


[10000]=-0.0145183117659648756176
[100000]=-0.0168743137361940659380
[1000000]=-0.0158932270594019514620
[10000000]=-0.0156984831255221751745
[100000000]=-0.0158045871196352515076
not converge

(75.7047 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(75.7047)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(75.7047)\ln(2n)]}{(2n)^{0.5}}] \tag{64}$$

= 0.009653628012110042231224261630636 38....

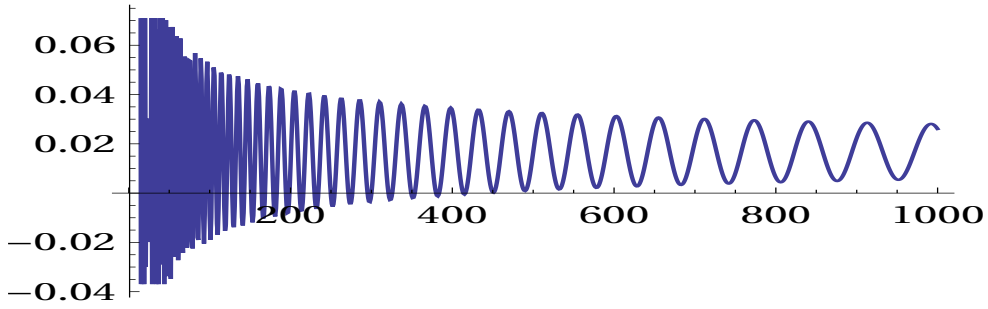


[10000]=0.0016245600108993024473
[100000]=-0.0010015153125604158314
[1000000]=-0.0001182290513657512342
[10000000]=0.0001204084346666212352
[100000000]=0.000025751718977342 7849
converge

(75.7047 +0.01=75.7147)

$$\sum_{n=1}^{1000}[\frac{\cos[(75.7147)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(75.7147)\ln(2n)]}{(2n)^{0.5}}] \tag{65}$$

= 0.026037579154504191831522494048690 49....

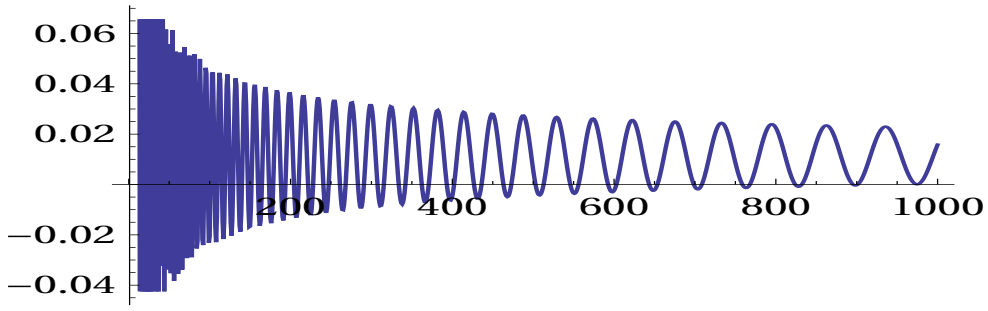


[10000]=0.0187700429043501960946
[100000]=0.0159047949088703503839
[1000000]=0.0166779554338473551267
[10000000]=0.0169547162854766578222
[100000000]=0.0168740888732249530446
not converge

(77.1448 -0.01=77.1348)

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1348)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(77.1348)\ln(2n)]}{(2n)^{0.5}}] \tag{66}$$

= 0.0158374553907442814664728637073412750 0....

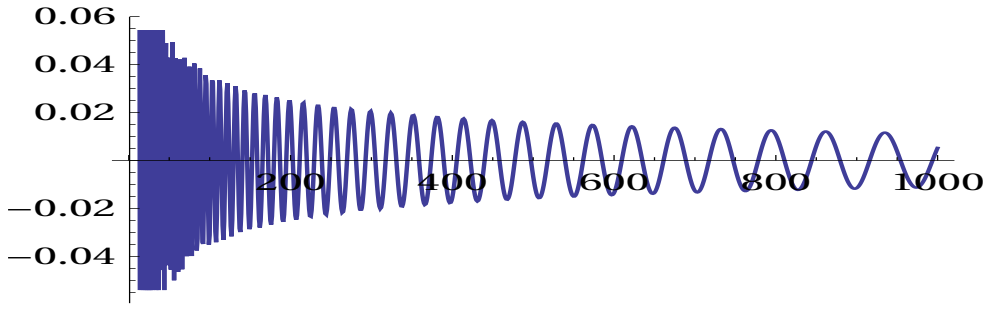


[10000]=0.0145234041256118440177
[100000]=0.0107811168707620391727
[1000000]=0.011151220679815243910 8
[10000000]=0.011500198938312484672 8
[100000000]=0.011439096084972776371 0
not converge

(77.1448 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1448)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(77.1448)\ln(2n)]}{(2n)^{0.5}}] \tag{67}$$

= 0.0052300276512721157556571843765 04....

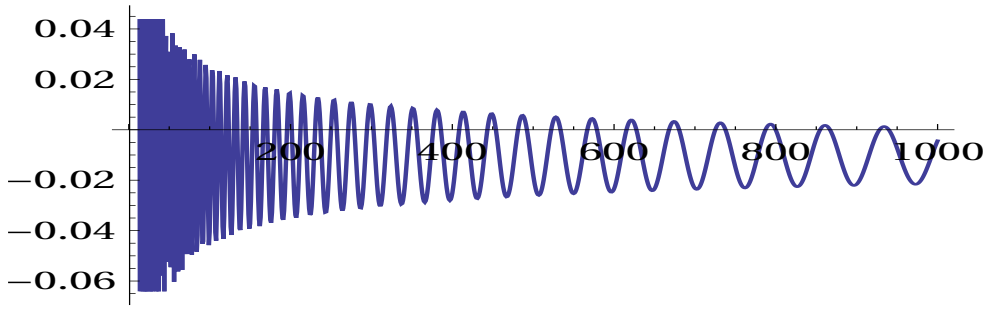


[10000]=0.0029664779953020377519
[100000]=-0.0007006166354271297931
[1000000]=-0.000187041972646696677 9
[10000000]=0.000137140392068110512 7
[100000000]=0.000058715472979412101 9
converge

(77.1448 +0.01=77.1548)

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1548)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(77.1548)\ln(2n)]}{(2n)^{0.5}}] \tag{68}$$

= -0.00436086098127121124939078745425 57....

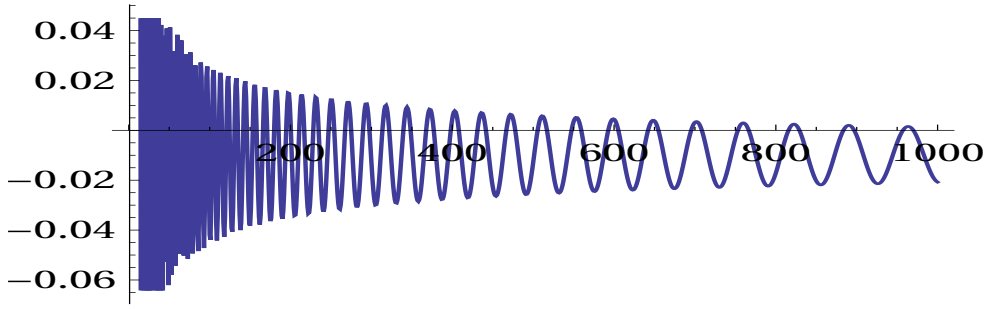


[10000]=-0.0075726021271640304999
[100000]=-0.011124786479812000 2505
[1000000]=-0.010473969326010057 1320
[10000000]=-0.010182067599665363 7468
not converge

(79.3374 -0.01=79.3274)

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3274)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(79.3274)\ln(2n)]}{(2n)^{0.5}}] \tag{69}$$

= -0.02076513152075744354907712109053746....

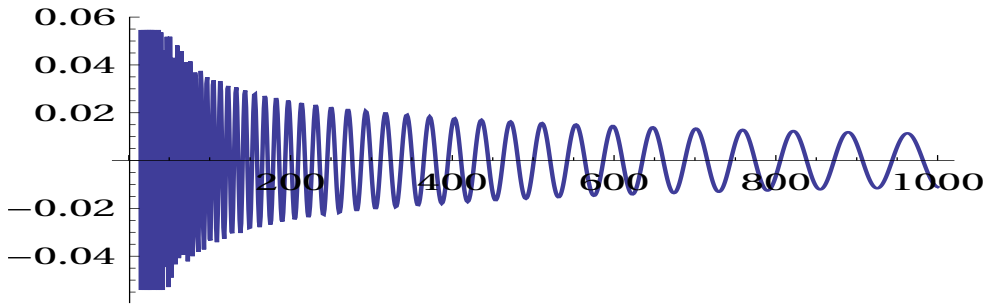


[10000]=0.008175755031177062 4957
[100000]=0.010717880514020478 0333
[1000000]=0.011344641491091107 8100
[10000000]=0.011439670686156555 9260
[100000000]=0.011429960917647849 4943
not converge

(79.3374 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3374)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(79.3374)\ln(2n)]}{(2n)^{0.5}}] \tag{70}$$

= -0.011060118603004843147391183899044 21....

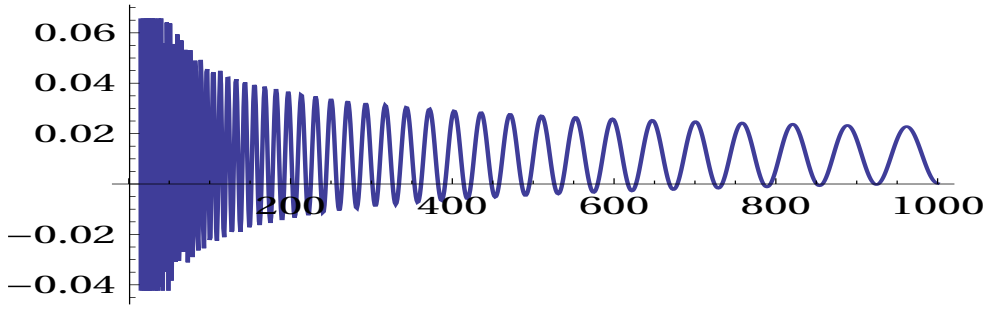


[10000]=-0.0033286483613430535924
[100000]=-0.0007622145135349513156
[1000000]=-0.0000828611800183551403
[10000000]=0.0000436829234382010275
[100000000]=0.0000471368163292867377
converge

(79.3374 +0.01=79.3474)

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3474)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(79.3474)\ln(2n)]}{(2n)^{0.5}}] \tag{71}$$

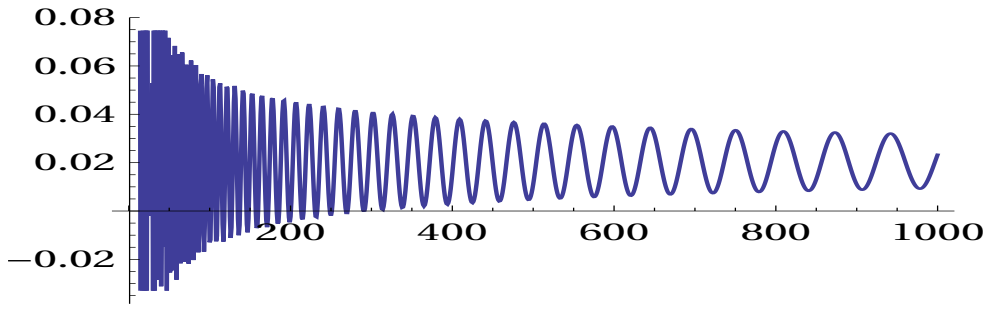
= 0.000239472792792690622654945101468 2763....



[10000]=0.008175755031177062 4957
[100000]=0.010717880514020478 0333
[1000000]=0.011344641491091107 8100
[10000000]=0.011439670686156555 9260
[100000000]=0.011429960917647849 4943
not converge

$$(82.9104 - 0.01 = 82.9004) \sum_{n=1}^{1000} [\frac{\cos[(82.9004)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(82.9004)\ln(2n)]}{(2n)^{0.5}}] \quad (72)$$

$= 0.023282073861962337559387459755070270....$

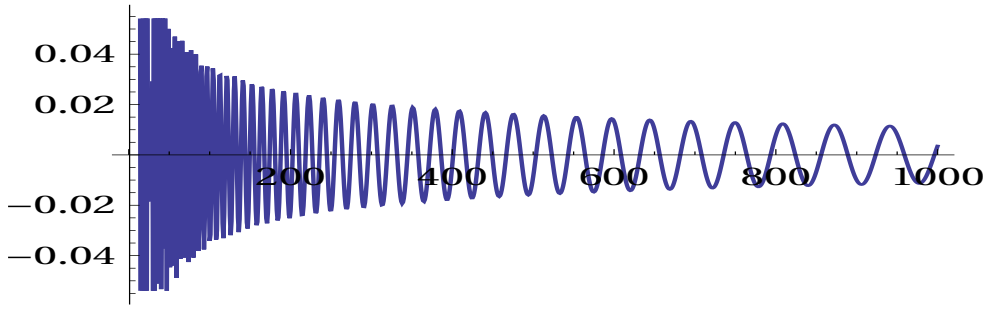


[10000]=0.0222846263592452326074
[100000]=0.0194543229123889487020
[1000000]=0.020841198238980167267 7
[10000000]=0.020484200346214977844 8
[100000000]=0.020510412664440768465 4
not converge

(82.9104 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000} [\frac{\cos[(82.9104)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(82.9104)\ln(2n)]}{(2n)^{0.5}}] \quad (73)$$

$= 0.003534455886989732993089041177903 51....$

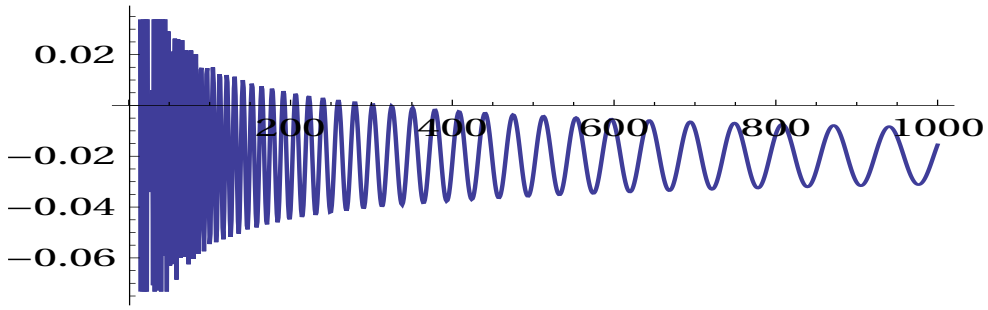


[10000]=0.0014103623601796036642
[100000=-0.0010605598122671972775
[1000000)=0.0002978867961682382442
[10000000]=-0.0000952393762674968021
[100000000]=-0.0000456358162302138902
converge

(82.9104 +0.01=82.9204)

$$\sum_{n=1}^{1000}[\frac{\cos[(82.9204)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(82.9204)\ln(2n)]}{(2n)^{0.5}}] \tag{74}$$

= -0.01548996349106622583890468134979 56....

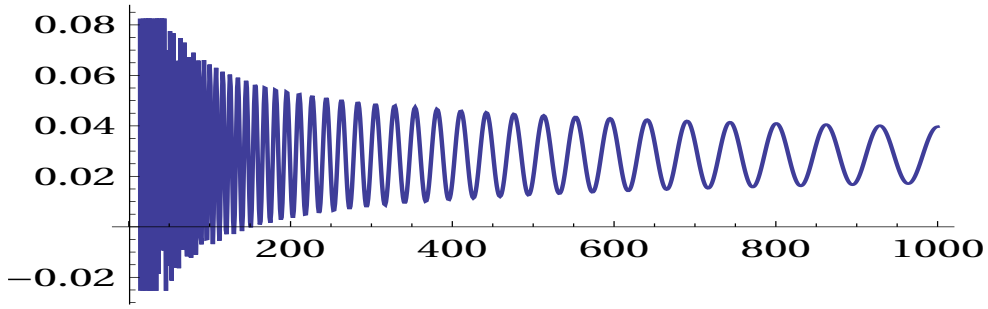


[10000]=-0.0187342688547805988342
[100000=-0.0208164032433105182507
[1000000]=-0.0195086635481445599960
[10000000]=-0.0199292508559919707978
not converge

(84.7355 -0.01=84.7255)

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7255)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(84.7255)\ln(2n)]}{(2n)^{0.5}}] \tag{75}$$

= 0.03966457339110282569555467746675705 04....

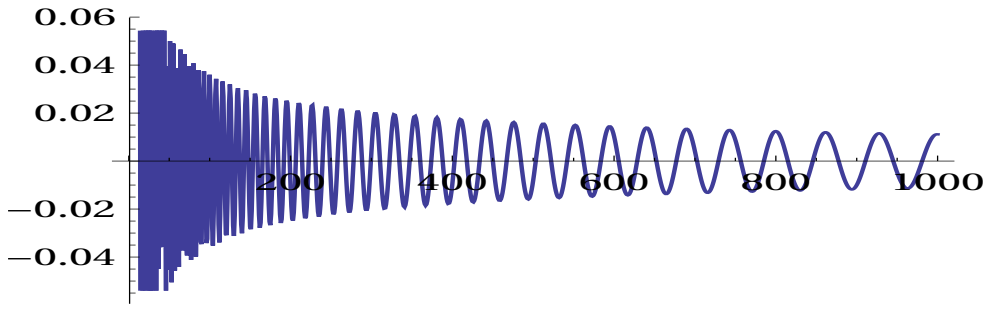


[10000]=0.0318872204225595853866
[100000]=0.0294184557494009089884
[1000000]=0.0287067629290724581070
[10000000]=0.0285249567043578157455
[100000000]=0.0284865943793785082738
not converce

(84.7355 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7355)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(84.7355)\ln(2n)]}{(2n)^{0.5}}] \tag{76}$$

= 0.011141051602656429937878753987726 57....

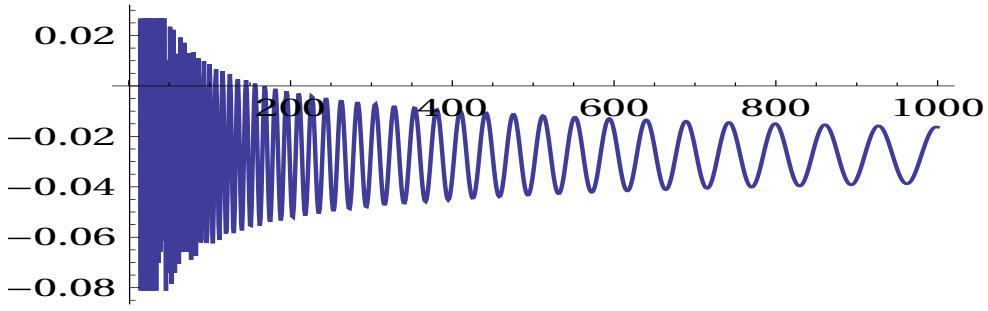


[10000]=0.0032716683727916544625
[100000]=0.0008326779381843932206
[1000000]=0.000160670119015738 5807
[10000000=0.0000029354452761063156
[100000000]=-0.000024166465809795 1197
converge

(84.7355 +0.01=84.7455)

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7455)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(84.7455)\ln(2n)]}{(2n)^{0.5}}] \tag{77}$$

= -0.016345071972293328324883627536856 14....

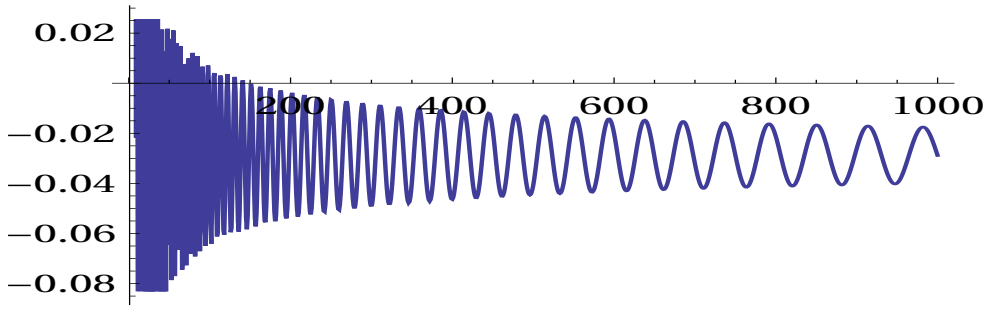


[10000]=-0.024274287372164620 5964
[100000]=-0.026663931648521023 4320
[1000000]=-0.027287360502406897 4223
[10000000]=-0.027417871156953259 3262
[100000000]=-0.027432911158767094 0176
not converge

(87.4253 -0.01=87.4153)

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4153)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(87.4153)\ln(2n)]}{(2n)^{0.5}}] \tag{78}$$

= -0.028868238867705496470309995403830767....

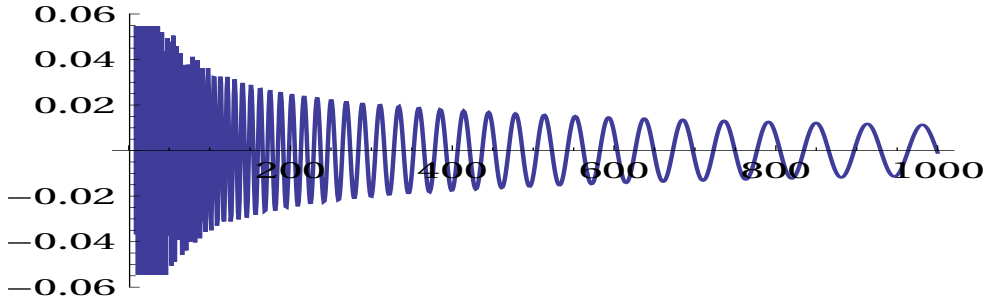


[10000]=-0.0294905492735248811464
[100000]=-0.0292174614920240223459
[1000000]=-0.028967275802245912724 7
[10000000]=-0.028839534921585429500 0
[100000000]=-0.028785678858794714468 6
not converge

(87.4253 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4253)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(87.4253)\ln(2n)]}{(2n)^{0.5}}] \tag{79}$$

= -0.000888581487385396828231414782262693 7....

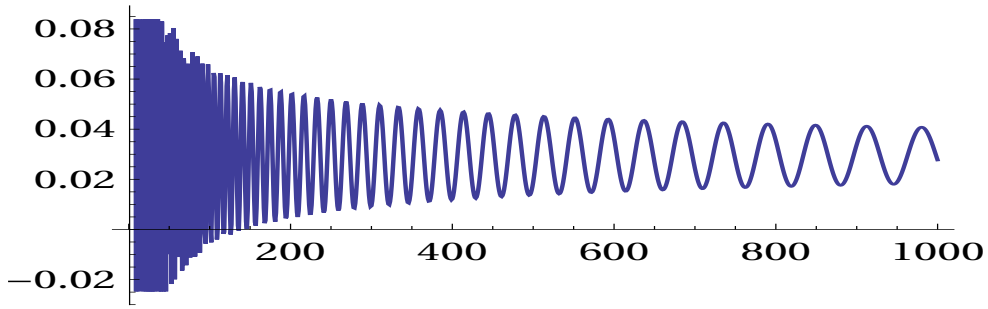


[10000]= -0.0010004497393000491741
[100000]= -0.0005095242227744967893
[1000000]= -0.0001774559399960536792
[10000000]= -0.0000220674631672737237
converge

(87.4253 +0.01=87.4353)

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4353)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(87.4353)\ln(2n)]}{(2n)^{0.5}}] \tag{80}$$

= 0.027704474845898808913038184191403 28....

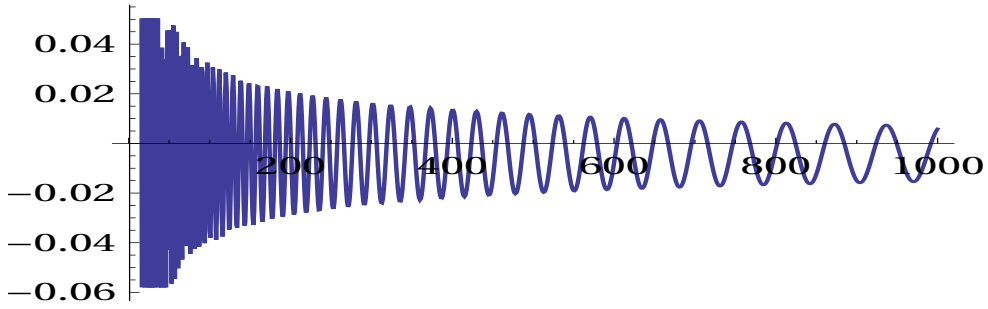


[10000]=0.0281080194080228738807
[100000]=0.0288149360292453242394
[1000000]=0.0292254876163264634692
[10000000]=0.029405948267388945516 2
[100000000]=0.029475049671367374581 9
not converge

(88.8091 -0.01=88.7991)

$$\sum_{n=1}^{1000}[\frac{\cos[(88.7991)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(88.7991)\ln(2n)]}{(2n)^{0.5}}] \tag{81}$$

= 0.005852530275833069866886810620228 43....

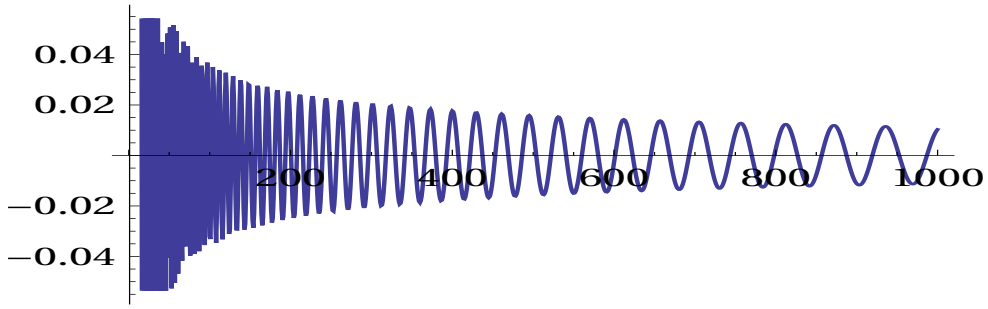


[10000]=-0.0075802629627276293250
[100000]=-0.0030150819828270061622
[1000000]=-0.0044697337538711374300
[10000000]=-0.0040379390189374331568
[100000000]=-0.0041561060838526033695
not converge

(88.8091 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(88.8091)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(88.8091)\ln(2n)]}{(2n)^{0.5}}] \tag{82}$$

= 0.010332897078108266898011530774962 8....

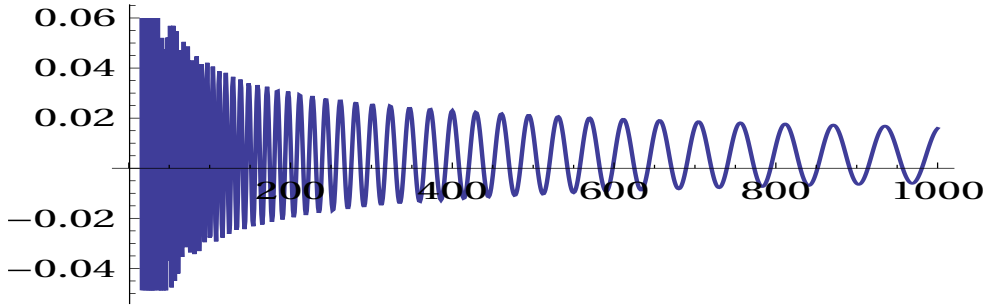


[10000]= -0.0035136809338557582760
[100000]= 0.0010982711272328137507
[1000000]= -0.0003239705664555260706
[10000000]= 0.0000776637060144497345
[100000000]= -0.0000237365082598473473
converge

(88.8091 +0.01=88.8191)

$$\sum_{n=1}^{1000}[\frac{\cos[(88.8191)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(88.8191)\ln(2n)]}{(2n)^{0.5}}] \tag{83}$$

= 0.015934932837522983487256100774298 99....

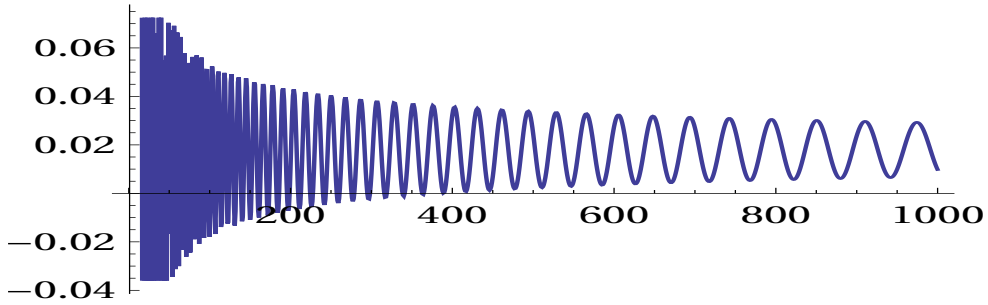


[10000]=0.0017686547806949515400
[100000]=0.0063765745429264107311
[1000000]=0.0050098608074647396973
[10000000]=0.0053722992267073851544
[100000000]=0.0052906766583897986422
not converge

(92.4919 -0.01=92.4819)

$$\sum_{n=1}^{1000}[\frac{\cos[(92.4819)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(92.4819)\ln(2n)]}{(2n)^{0.5}}] \tag{84}$$

= 0.009801967430046798170297271086259106 0....

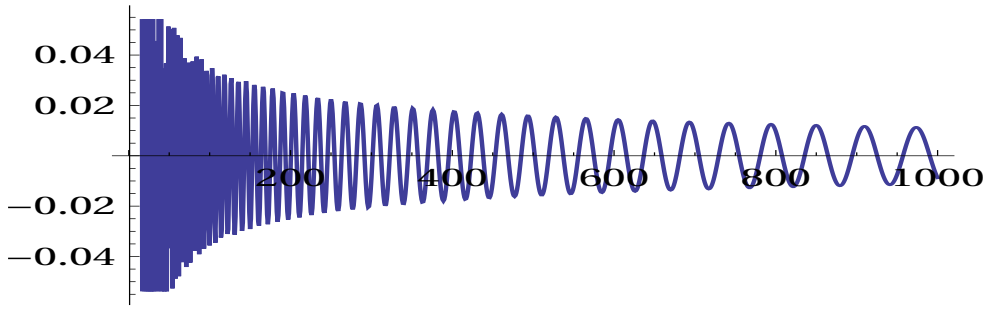


[10000]=0.0175727899371627450942
[100000]=0.0185962823074991082106
[1000000]=0.0183356254448237623866
[10000000]=0.0181058644958792085145
[100000000]=0.0180190368161497645183
not converge

(92.4919 is nontrivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(92.4919)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(92.4919)\ln(2n)]}{(2n)^{0.5}}] \tag{85}$$

0.008547365010250874501406981302547....

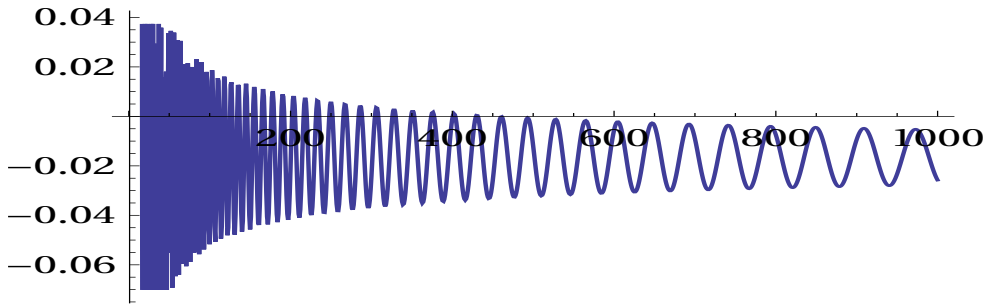


[10000]= -0.000774307696825416932 9
[100000]= 0.000474426204330751335 0
[1000000]= 0.000313430822750708287 2
[10000000]= 0.000108645312223227334 9
[100000000]= 0.000022275923831711084 4
converge

(92.4919 +0.01=92.5019)

$$\sum_{n=1}^{1000}[\frac{\cos[(92.5019)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(92.5019)\ln(2n)]}{(2n)^{0.5}}] \tag{86}$$

= -0.025769922882814007897222100511552408....

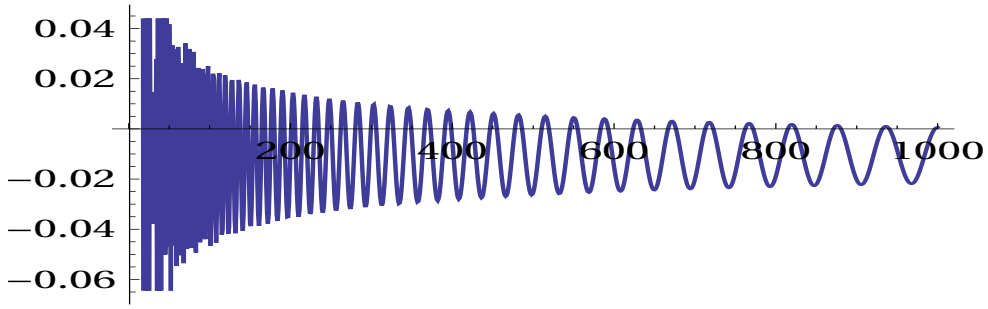


[10000]=-0.017624424673320641 9431
[100000]=-0.016165103431012968 4823
[1000000]=-0.016225971620492808 6669
[10000000]=-0.016402267831901802 5417
[100000000]=-0.016485937352745245 3264
not converge

(The axis is 94.6513 -0.01=94.6413)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6413)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(94.6413)\ln(2n)]}{(2n)^{0.5}}] \tag{87}$$

= 0.000660819168786540468218909859131396....

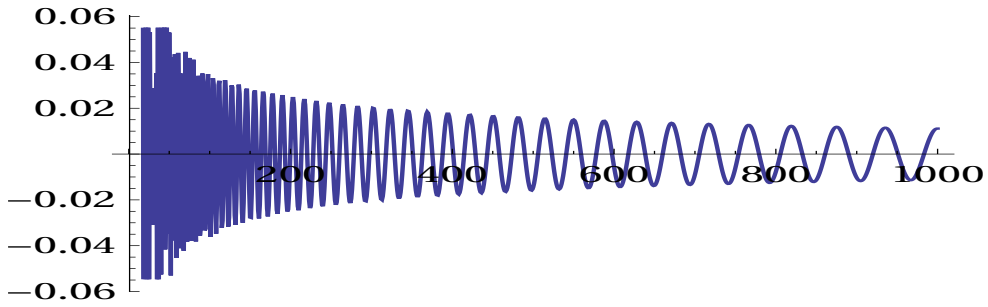


[10000]=-0.012156978521417942 3849
[100000)=-0.011200089459229784 2861
[1000000]=-0.010168271865241183 8156
[10000000]=-0.010531384694230691 5677
[100000000]=-0.010540683641777511 6865
not converge

(94.6513 is nontrivial zero value as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6513)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(94.6513)\ln(2n)]}{(2n)^{0.5}}] \tag{88}$$

= 0.011127005476330245290336596568709....

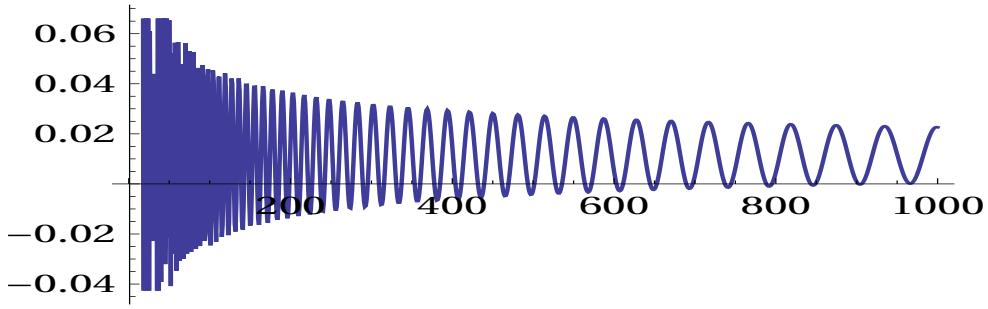


[10000]= -0.0013765254567662944633
[100000]= -0.0008392212363509909913
[1000000]= 0.0002788508501267524431
[10000000]= -0.0000497038044914837129
[100000000]=-0.0000309521760194209424
converge

(4.6513 +0.01=94.6613)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6613)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(94.6613)\ln(2n)]}{(2n)^{0.5}}] \tag{89}$$

= 0.022617735064078966033699135792529 5....

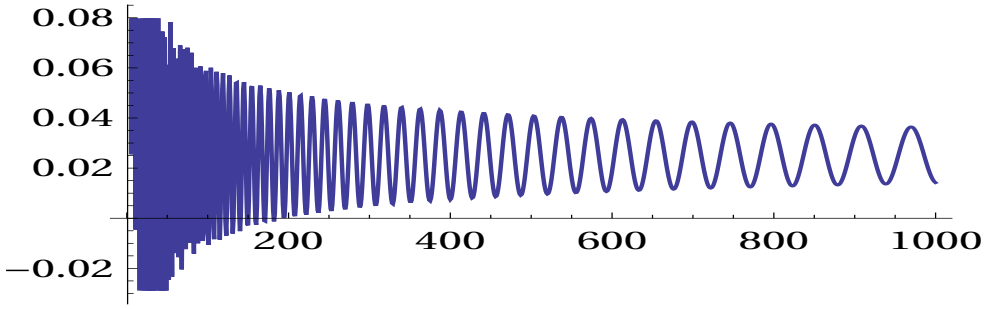


[10000]=0.0105060236444533584843
[100000]=0.0106224946041767430438
[1000000]=0.0118081762350637931719
[10000000]=0.0115210923270080024122
[100000000]=0.0114690425146854717980
not converge

(95.8706 -0.01=95.8606)

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8606)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(95.8606)\ln(2n)]}{(2n)^{0.5}}] \tag{90}$$

= 0.014172631470856970104209633285257 6....

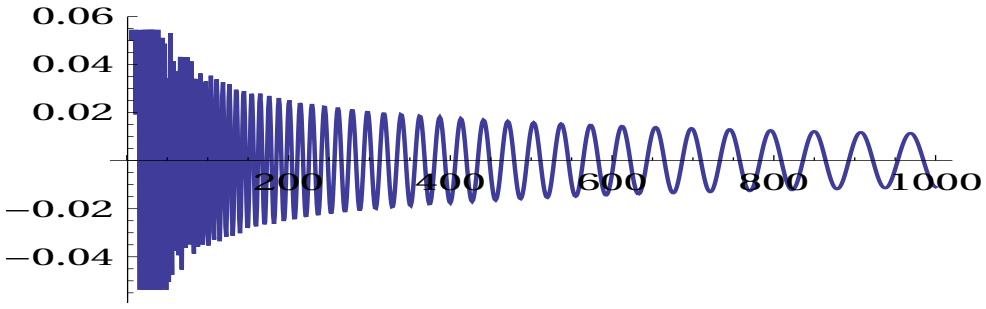


[10000]=0.0222087165335923750198
[100000]=0.0249554363954456182029
[1000000]=0.0253503637991626534776
[10000000]=0.0252465303669947294107
[100000000]=0.0251620072925927106000
not converge

(95.8706 non-trivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8706)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(95.8706)\ln(2n)]}{(2n)^{0.5}}] \tag{91}$$

= -0.011014033824321856717273464621484....

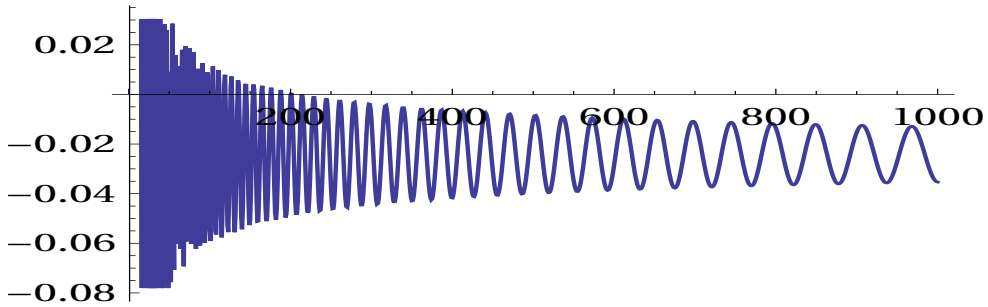


[10000]= -0.0026317155444329789170
[100000]= 0.000040228325283148637 6
[1000000]= 0.000337773116084501908 1
[10000000]= 0.000195949810939305673 5
[100000000]= 0.000106217408493745139 9
converge

(95.8706 +0.01=95.8806)

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8806)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(95.8806)\ln(2n)]}{(2n)^{0.5}}] \tag{92}$$

= -0.035334983578964980359492918272530 0....

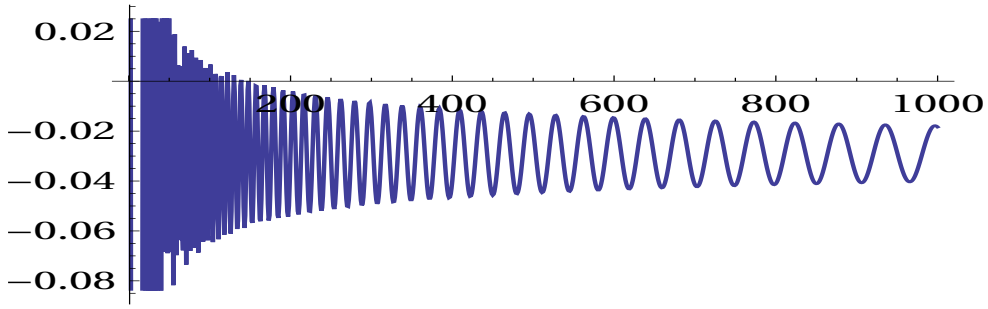


[10000]=-0.026643907435824 6347218
[100000]=-0.024072700062490 1266157
[1000000]=-0.023878519378829 6559725
[10000000]=-0.024056153576930 4446486
[100000000]=-0.024148744806166 8240340
not converge

(98.8312 -0.01=98.8212)

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8212)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(98.8212)\ln(2n)]}{(2n)^{0.5}}] \tag{93}$$

= -0.018367164108921715453400728258162 05....

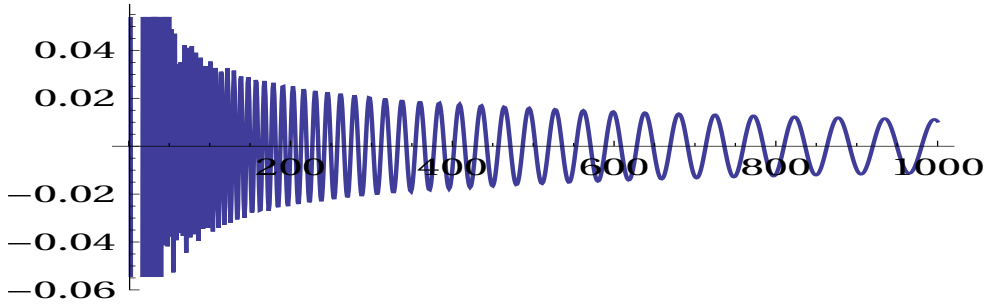


[10000]=-0.029251895550875 1753170
[100000]=-0.030106540742240 8601312
[1000000]=-0.029130683594468 4996975
[10000000]=-0.028908928457808 0280008
[100000000]=-0.028975731146257 0422977
not converge

(98.8312 non-trivial zero value. as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8312)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(98.8312)\ln(2n)]}{(2n)^{0.5}}] \tag{94}$$

= 0.010357636655826298610027886626709537357 74....

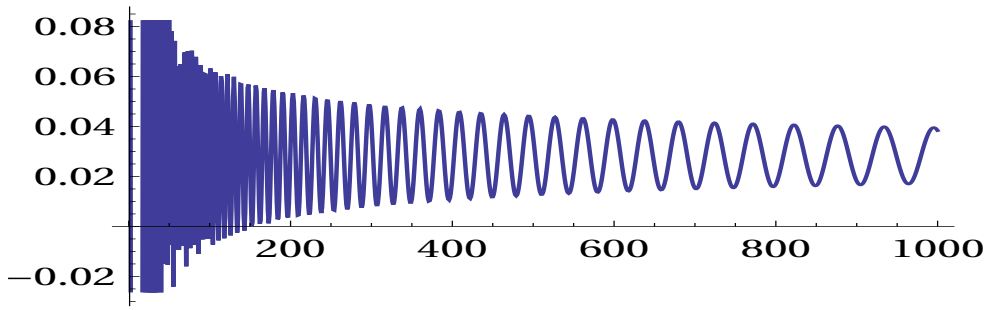


[10000]=-0.0005812758455654100289
[100000]=-0.0011009283190770852157
[1000000]=-0.0000636630925465695460
[10000000]=0.0001183386232722523221
[100000000]=0.0000372821209876205499
converge

(98.8312 +0.01=98.8412)

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8412)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(98.8412)\ln(2n)]}{(2n)^{0.5}}] \tag{95}$$

= 0.038336463236695226503961208870407837....

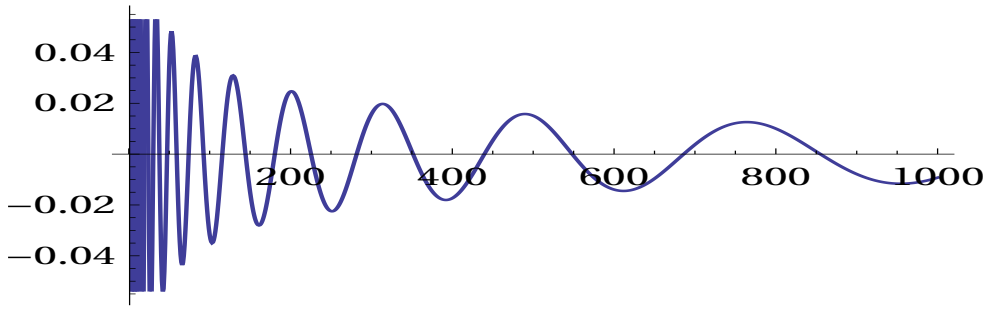


[10000]=0.0274089479801120014524
[100000]=0.0272350581913820416480
[1000000]=0.0283187887816494579529
[10000000]=0.0284564818222056009622
[100000000]=0.0283632866205242029078
not converge

Chapter 2 (The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{cos[(14.1347)\ln(2n-1)}{(2n-1)^{0.4999}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.4999}}] \tag{96}$$

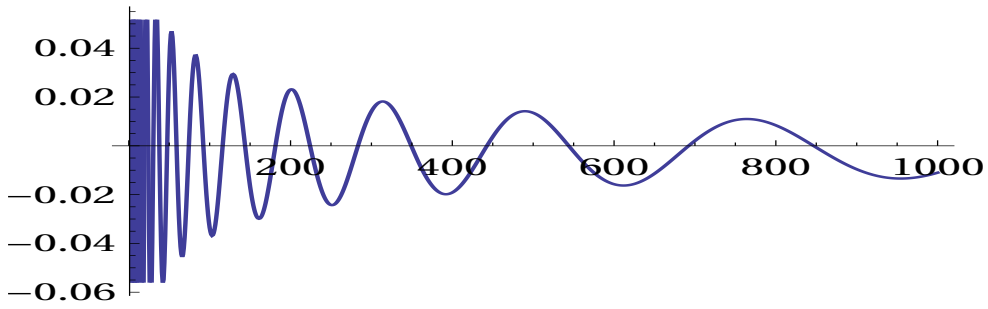
= -0.009257840509601691345415572118652270020349....



[10000] =0.000450798747349079624 2
[100000] =0.000891425953982662991 0
[1000000] =0.000036956041650341504 2
[10000000] =-0.000237664094981320124 8
not converge

$$(Theaxisis0.5-0.001)\sum_{n=1}^{1000}[\frac{cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.499}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.499}}] \tag{97}$$

= -0.011012896628270076268406675045803263 70803....

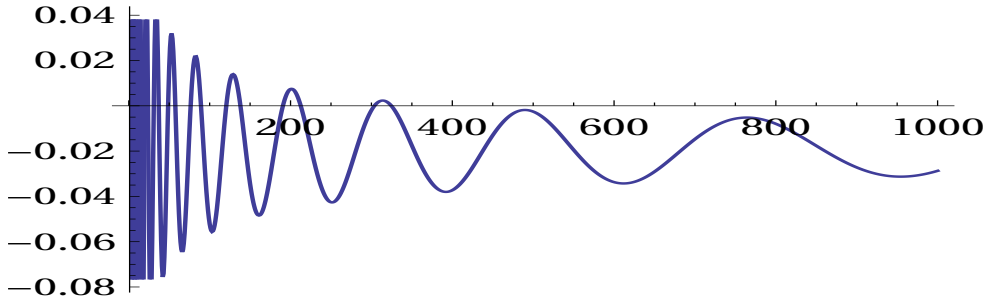


[10000] =-0.001236272491363781325 7
[100000] =-0.000789435193874906586 7
[1000000] =-0.001652865887360664221 4
[10000000] =-0.001931193941346099479 7
not converge

(The axis is 0.5 -0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.49}}-\frac{\cos[14.1347\ln(2n)]}{(2n)^{0.49}}] \tag{98}$$

= -0.0287246146425618261....

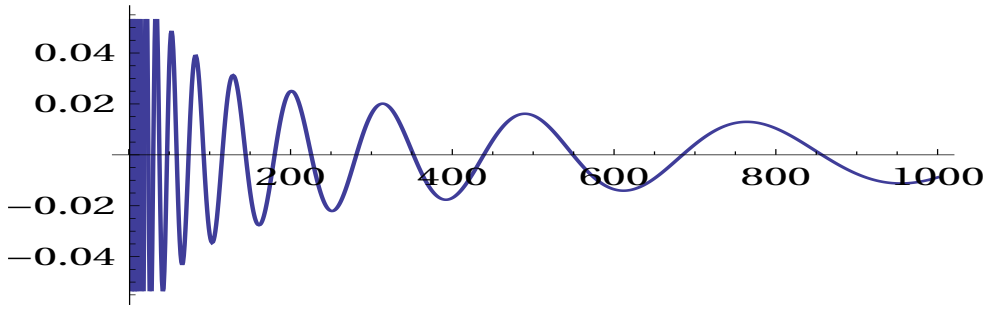


[10000]= -0.0182412463962976847953
[100000]= -0.017727705373692032 0315
[1000000]= -0.018686000956547373 7803
[10000000]= -0.019004287017689417 5549
[100000000]=-0.018991751713097970 7218
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5}}-\frac{\cos[14.1347\ln(2n)]}{(2n)^{0.5}}] \tag{99}$$

-0.00906301367133582151....

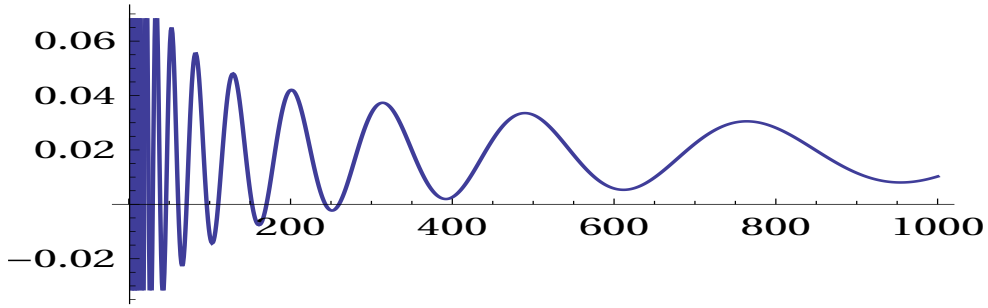


[10000]=0.0006381011115495365026
[100000]=0.0010780432416684295090
[1000000)=0.0002245632899122298001
[10000000]=-0.0000496479275200912434
[100000000]=-0.0000382288508812898928
converge

(The axis is 0.5 +0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.51}} - \frac{\cos[14.1347\ln(2n)]}{(2n)^{0.51}}] \tag{100}$$

= 0.010240082649027873 25....

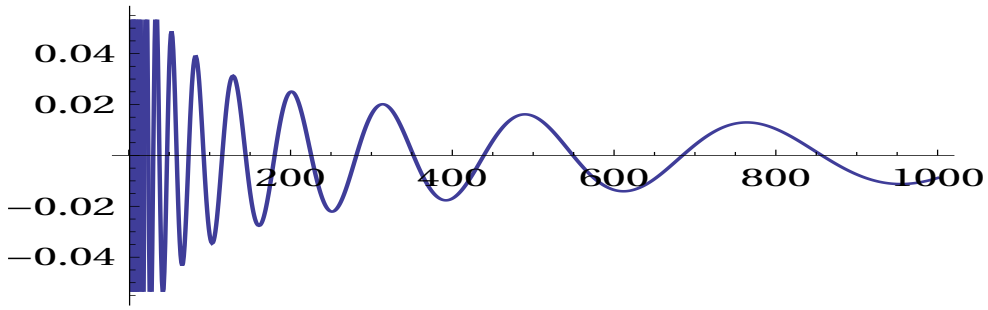


[10000]=0.0192176082247373404555
[100000]=0.0195937840748259088641
[1000000]=0.0188337913412248876555
[10000000]=0.0185975339572469408611
[100000000]=0.0186078662584906844024
not converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.5001}}] \tag{101}$$

= -0.008868222680406964769889406332068608994503

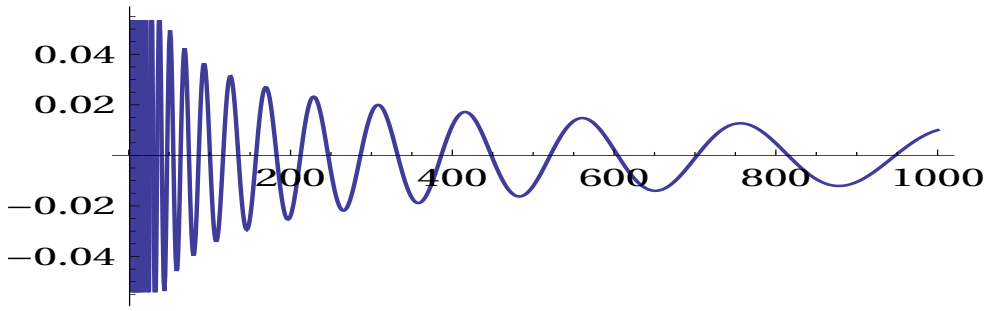


[10000] =0.000825373491803603 8232
[100000] =0.001264631527182712 1996
[1000000] =0.000412140404321286 5422
[10000000] =0.000138337495139104 9966
[100000000] =0.000149745516963495 5138
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.4999}}] \tag{102}$$

= 0.010001932093239106167194820246006817970 53

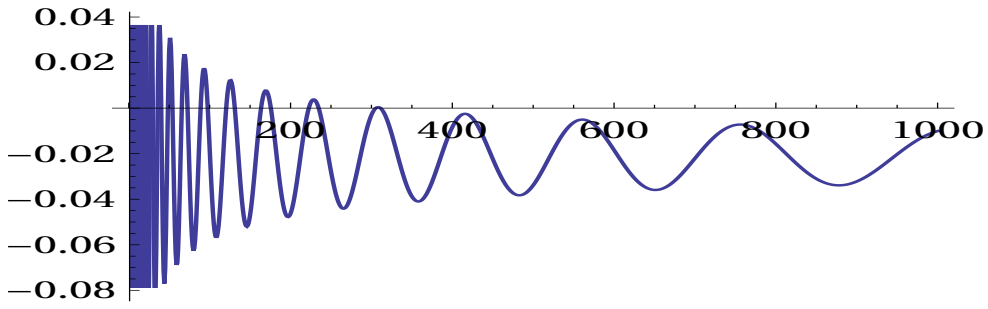


[10000]= -0.0025130531442483245580
[100000]= -0.0007592596129060642015
[1000000]= 0.0001734116036285227871
[10000000]= -0.0001707549672368732893
[100000000]= -0.0002018563265390039933
not converge

(The axis is 0.5 -0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.49}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.49}}] \tag{103}$$

= -0.010077623957692851438

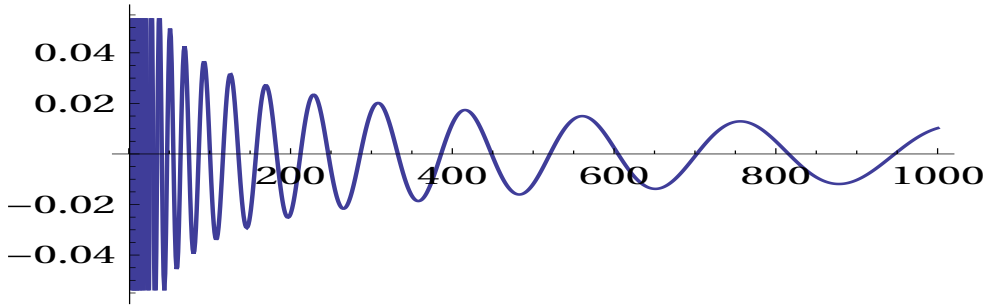


[10000]=-0.0236290071420571581862
[100000]=-0.0217095847284566982605
[1000000]=-0.0206482298290876220559
[10000000]=-0.0210456267984390245351
[100000000]=-0.0210832778695941719382
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.5}}] \tag{104}$$

= 0.010203050972979707

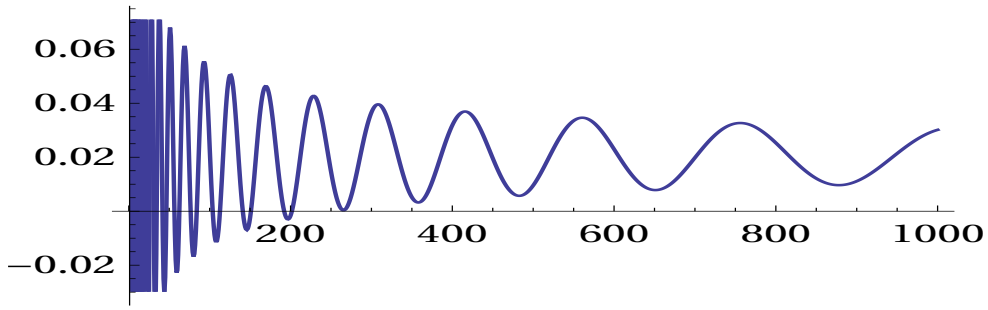


[10000]=-0.0023018856406172511289
[100000]=-0.000549692165757362108 7
[1000000]=0.0003817627764431225329
[10000000]=0.0000380957809653702473
[100000000]=0.000007054409295744287 1
converge

(The axis is 0.5 +0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.51}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.51}}] \tag{105}$$

= 0.0301437250660519783

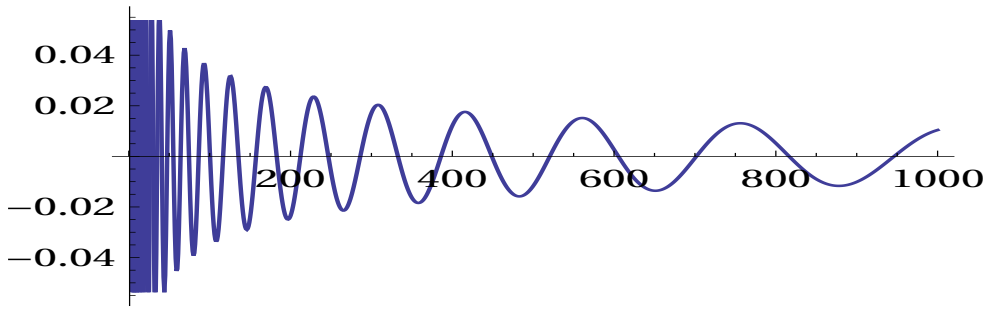


[10000]=0.0186034964827524601505
[100000)=0.0202026487431074264212
[1000000]=0.0210202028664549234183
[10000000]=0.0207230001134234807780
[100000000]=0.0206974093289953205155
not converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.5001}}] \tag{106}$$

= 0.010404135850931615429481715273446838332 00

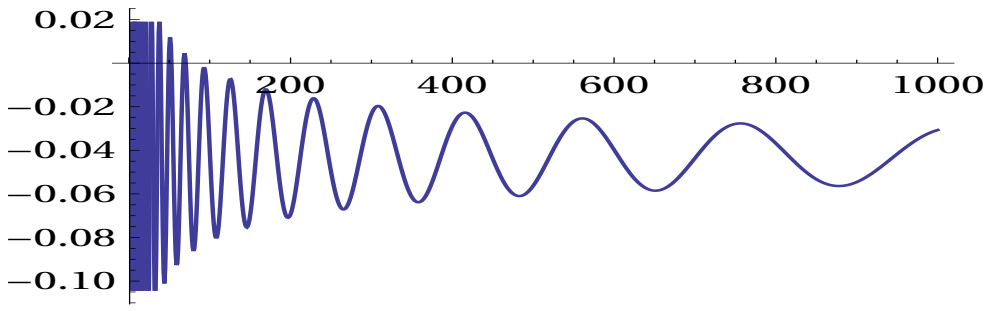


[10000]= -0.0020907603079233774354
[100000]= -0.0003401654715591180544
[1000000]= 0.0005900747938683002011
[10000000]= 0.0002469066484824651792
[100000000]= 0.0002159251488904244615
not converge

(The axis is 0.5 -0.02)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.48}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.48}}] \tag{107}$$

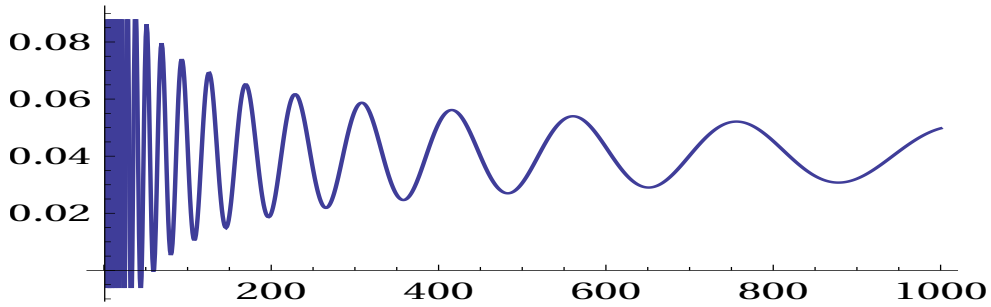
= -0.030701112671694936696152383369363401348 03



(The axis is 0.5 +0.02)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.52}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.52}}] \tag{108}$$

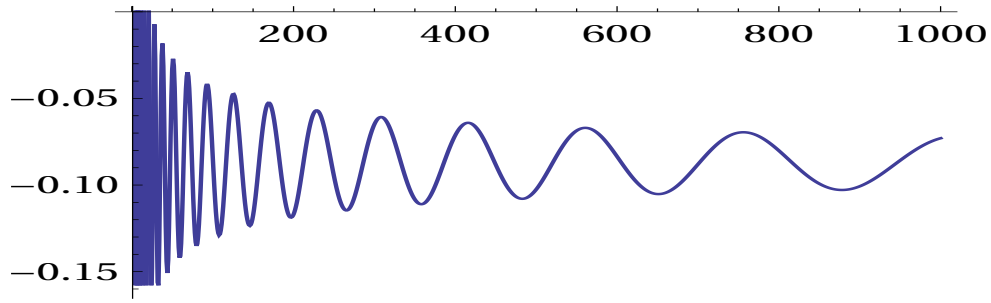
= 0.010404135850931615429481715273446838332 00



(The axis is 0.5 -0.04)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.46}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.46}}] \tag{109}$$

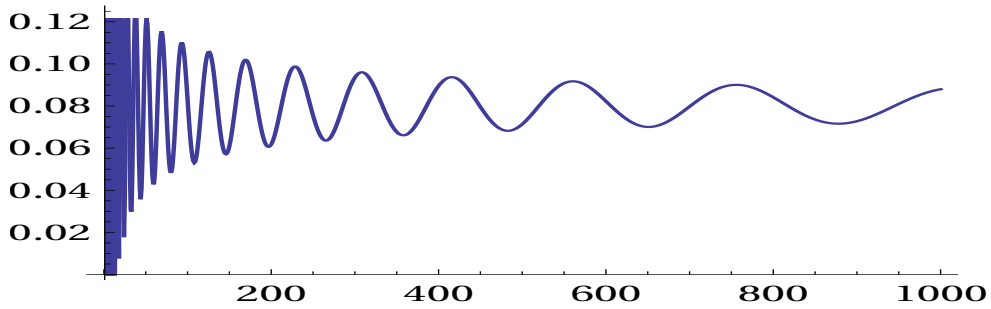
= -0.072986610593811964972041170453501037097 76



(The axis is 0.5 +0.04)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.54}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.54}}] \tag{110}$$

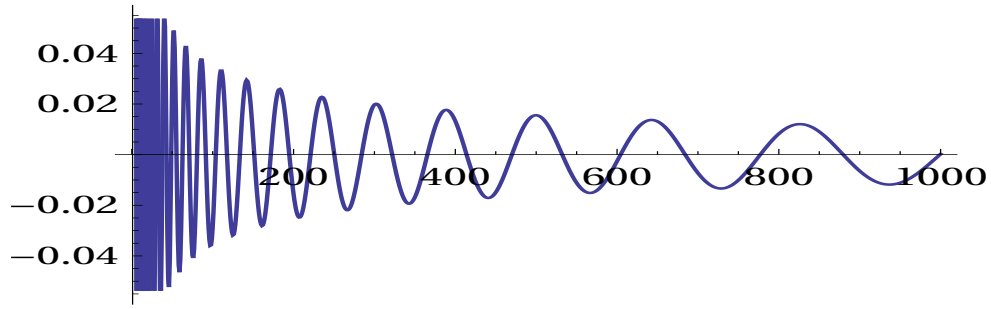
= 0.087956811873280220675736861131693838407802



(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.4999}}] \tag{111}$$

= 0.00023406839512317535302137417694102190312 63

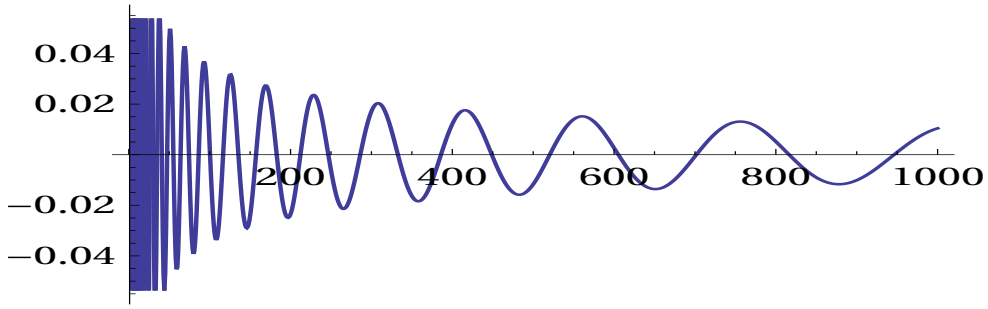


[10000]= 0.0028566554290930883629
[100000]= 0.0006906044201284139818
[1000000]= -0.0002709625732176824389
[10000000]= -0.0003618649905174442603
[100000000]=-0.0002947302460572199471
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5}}] \tag{112}$$

= 0.00041632941791503259439535812581429794331 6

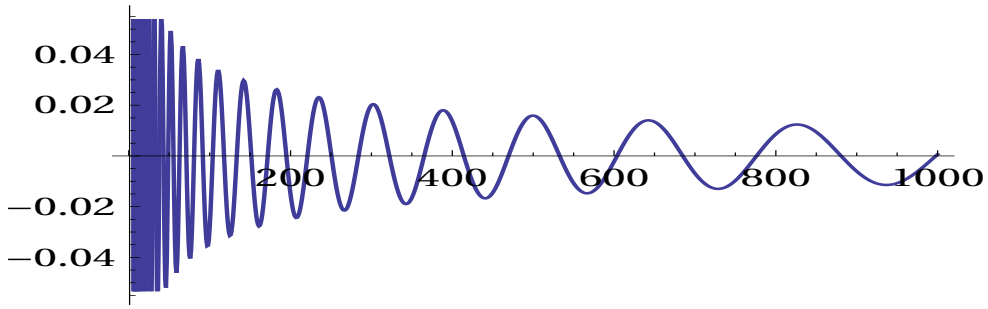


[10000]= 0.003036205841903256031 5
[100000]= 0.000872079323003387271 4
[1000000]= -0.000088313128009189572 0
[10000000]= -0.000179061293331828931 8
[100000000]=-0.000112032291282707210 7
converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5001}}] \tag{113}$$

= 0.00059855447839542069707461928038644141976 69

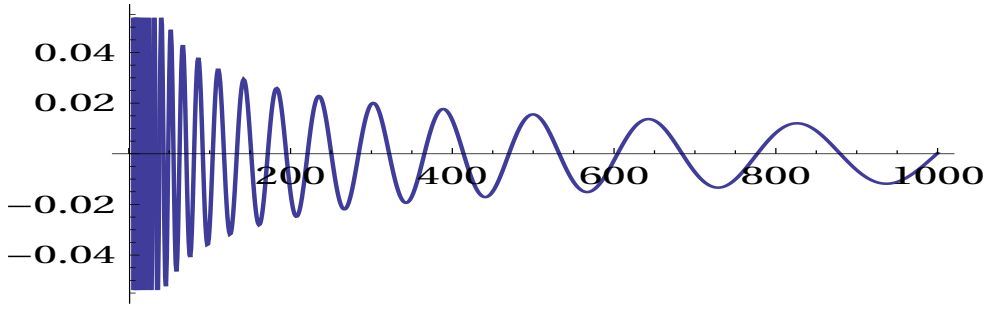


[10000]= 0.003215723062614568236 7
[100000]= 0.001053519396682899142 1
[1000000]= 0.000094300052958372078 0
[10000000]= 0.000003705878249452701 6
[100000000]=0.000070629302091781092 2
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.4999}}] \tag{114}$$

= 0.00023406839512317535302137417694102190312 63

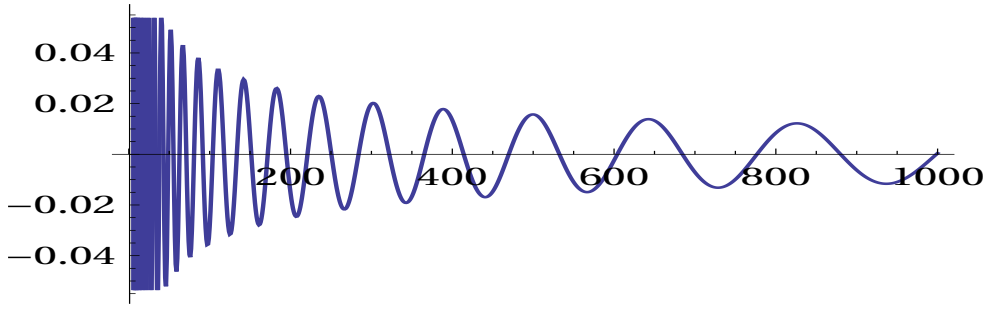


[10000]= 0.0028566554290930883629
[100000]= 0.000690604420128413 9818
[1000000]= -0.0002709625732176824389
[10000000]= -0.0003618649905174442603
[100000000]= -0.0002947302460572199471
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5}}] \tag{115}$$

= 0.000598554478395420697074619280386441419 7669

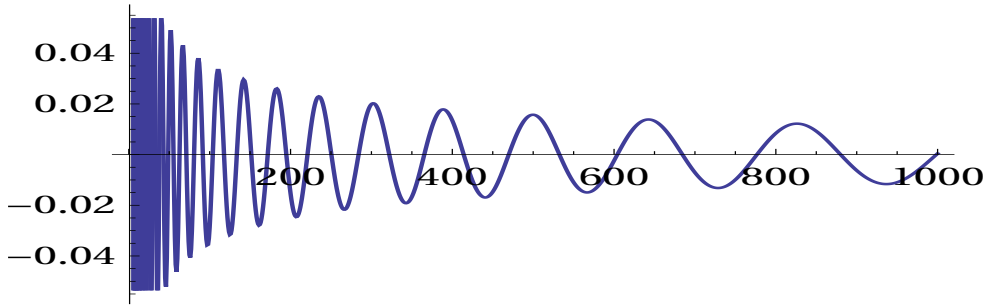


[10000]= 0.003036205841903256 0315
[100000]= 0.000872079323003387 2714
[1000000]= -0.000088313128009189 5720
[10000000]= -0.000179061293331828 9318
[100000000]=-0.000112032291282707 2107
converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5001}}] \tag{116}$$

= 0.000598554478395420697074619280386441419766 9

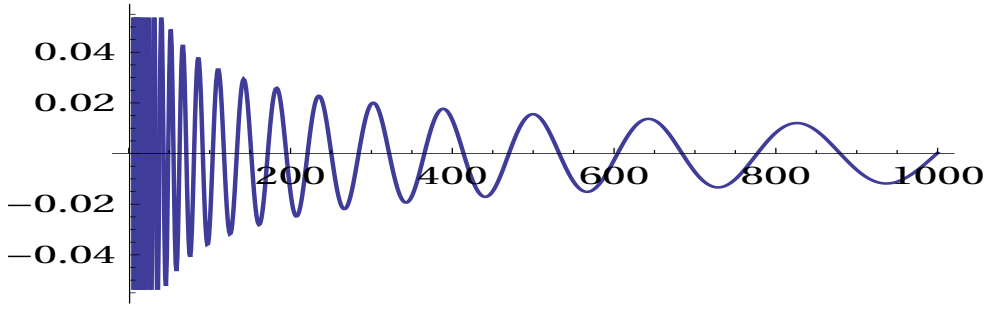


[10000]= 0.003215723062614568236 7
[100000]= 0.001053519396682899142 1
[1000000]= 0.000094300052958372078 0
[10000000]= 0.000003705878249452701 6
[100000000]=0.000070629302091781092 2
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4249)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(30.4249)\ln(2n)]}{(2n)^{0.4999}}] \tag{117}$$

= -0.003621872781749893703241471240183001932850

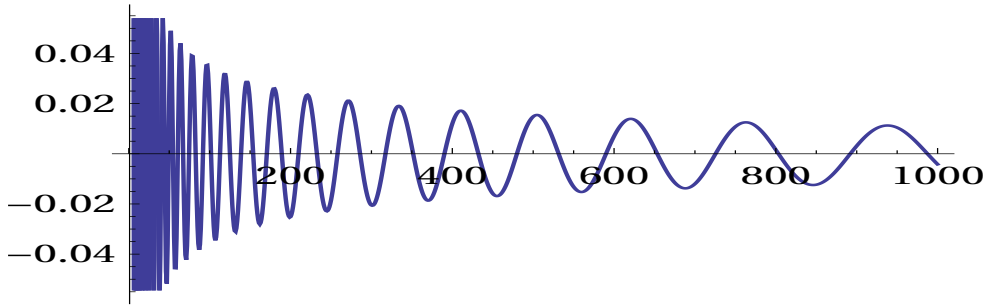


[10000]= -0.003685727318350589566 7
[100000]= -0.001167931893697444914 8
[1000000]= -0.000273216401393920008 8
[10000000]= -0.000191604861721904096 2
[100000000]=-0.000250709258547390421 1
not converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4249)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(30.4249)\ln(2n)]}{(2n)^{0.5001}}] \tag{118}$$

= -0.00419637862576179712785086842891773778122 2

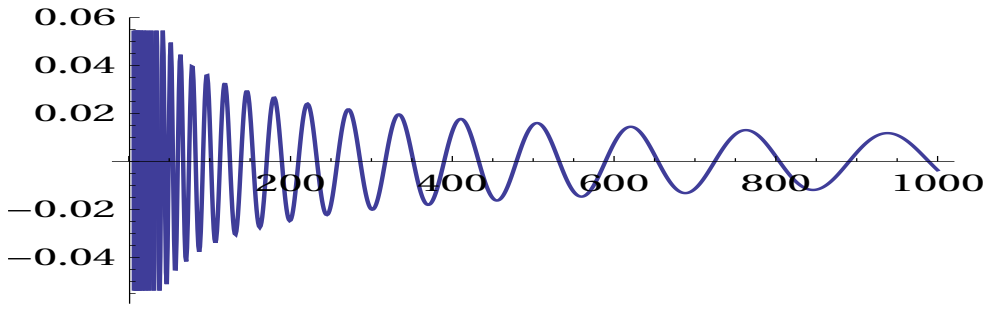


[10000]= -0.003110433566525467284 6
[100000]= -0.000597214086202124531 4
[1000000]= 0.000295314885364827864 2
[10000000]= 0.000376647498124926371 6
[100000000]=0.000317726176400590369 8
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9351)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(32.9351)\ln(2n)]}{(2n)^{0.4999}}] \tag{119}$$

= -0.00652087387235260435068325827912086908925 9

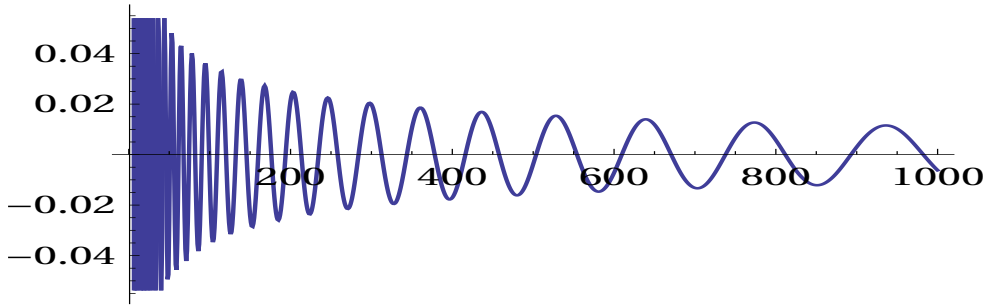


[10000]= -0.003326587015533984895 8
[100000]= -0.001425999753792001100 2
[1000000]= -0.000649934004796780284 2
[10000000]= -0.000395268754985239200 1
[100000000]= -0.000326991633907248741 7
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9351)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(32.9351)\ln(2n)]}{(2n)^{0.5}}] \tag{120}$$

= -0.006211350232338428548135531520246292646547

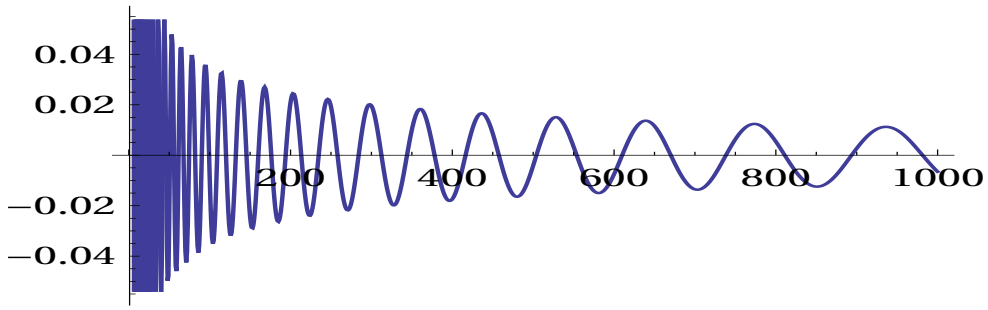


[10000]= -0.0030187974933814079245
[100000]= -0.0011198358022496601640
[1000000]= -0.000344639514090284873 4
[10000000]= -0.000090324813304388352 3
[100000000]=-0.000022159407427302588 0
converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9351)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(32.9351)\ln(2n)]}{(2n)^{0.5001}}] \tag{121}$$

= -0.005901905538729304253398373095610640138367

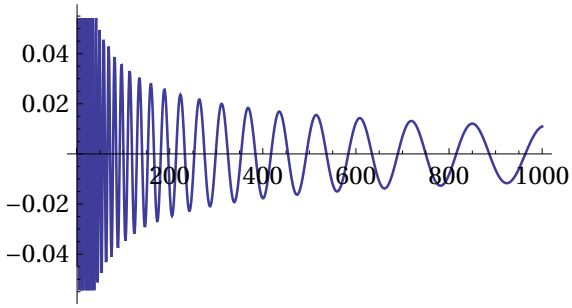


[10000]= -0.0027110862859639232522
[100000]= -0.0008137488683290382187
[1000000]= -0.000039421092356022285 5
[10000000]= 0.000214543536277744063 6
[100000000]= 0.000282597408932137709 5
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5862)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(37.5862)\ln(2n)]}{(2n)^{0.4999}}] \tag{122}$$

= 0.010860456478423458486634505444398391316 58....

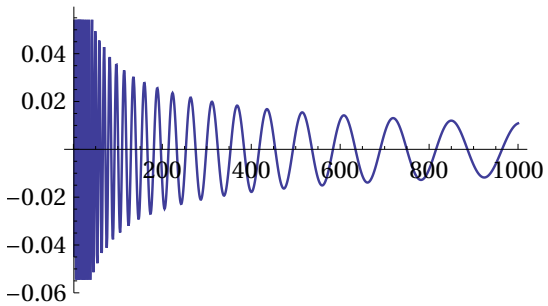


[10000]= -0.000286767853091962 1984
[100000]= -0.001246427383723641 6586
[1000000]= -0.000224165474263932 4536
[10000000]= -0.000030803203093121 4237
[100000000]= -0.000114602257286722 5783
not converge

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5862)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(37.5862)\ln(2n)]}{(2n)^{0.5}}] \tag{123}$$

= 0.010941795390264808277991901745991142814 38....

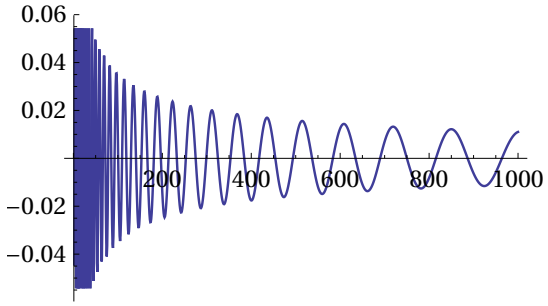


[10000]= -0.0001969237257829878525
[100000]= -0.0011553773481789157869
[1000000]= -0.0001343416061451328184
[10000000]= 0.0000587167172489908842
[100000000]= -0.0000249459169129748873
converge

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5862)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(37.5862)\ln(2n)]}{(2n)^{0.5001}}] \tag{124}$$

= 0.011023133865048238884424480298698929637 67....

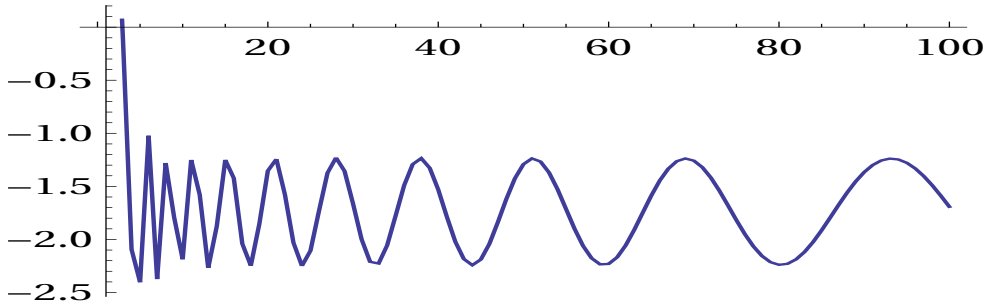


[10000]= -0.000107086532921881751 8
[100000]= -0.001064335753022271294 9
[1000000]= -0.000044524712889529915 3
[10000000]= 0.000148230145044753072 6
[100000000]=0.000064703708847587896 2

(The axis is 0.00001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.00001}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.0001}}] \tag{125}$$

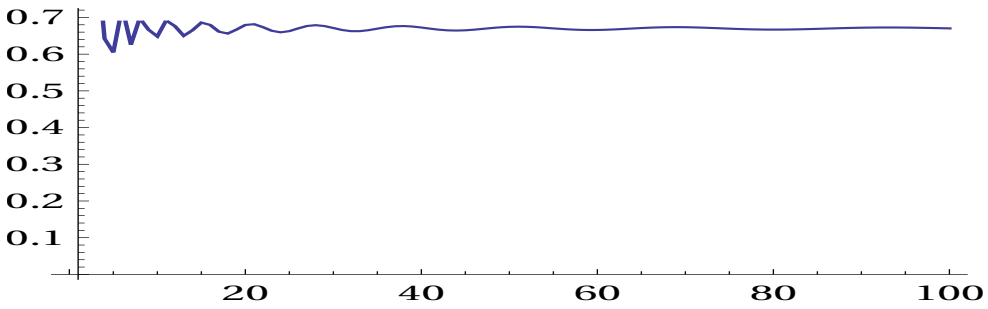
= -1.69237519579029077468462713961455815486 6....



(The axis is 0.99999)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.99999}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.99999}}] \tag{126}$$

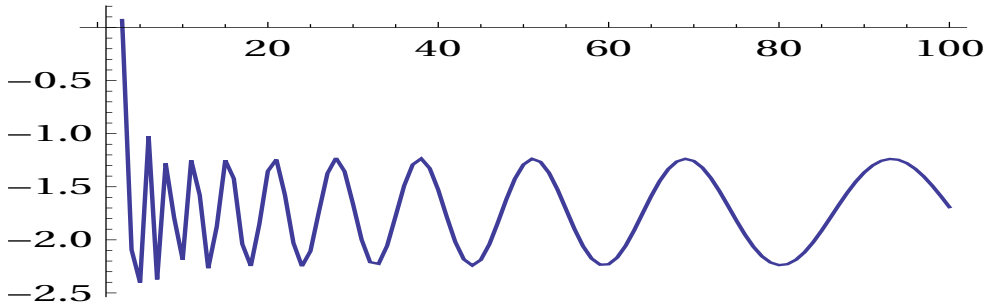
= 0.67022898303449753285147361635621286193 93....



(The axis is 0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.0001}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.0001}}] \tag{127}$$

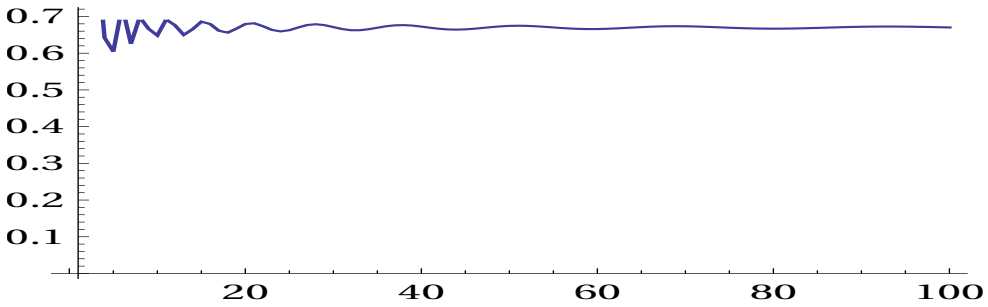
= -1.691914810408940984710921687899051853499....



(The axis is 0.9999)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.9999}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.9999}}] \tag{128}$$

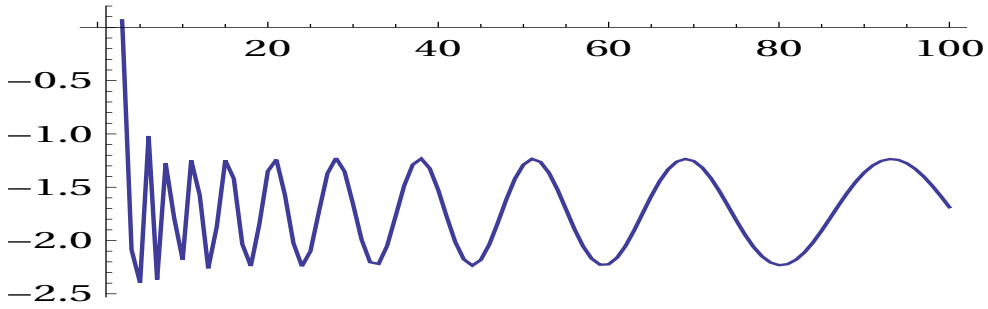
= 0.670157947361434047604773400487360636436 8....



(The axis is 0.001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.001}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.001}}] \tag{129}$$

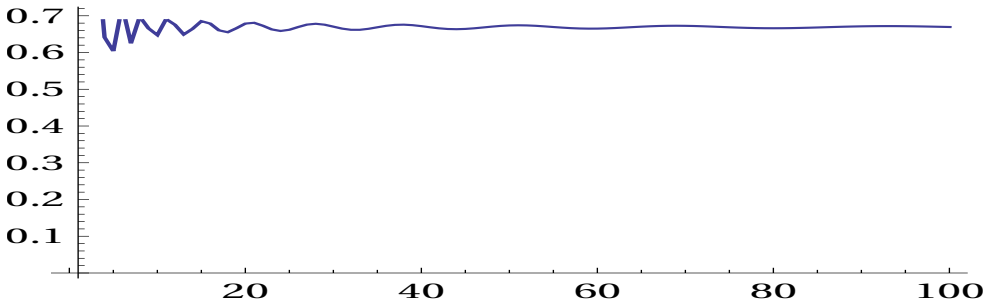
= -1.687314830139069704606318113596237362764....



(The axis is 0.999)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.999}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.999}}] \tag{130}$$

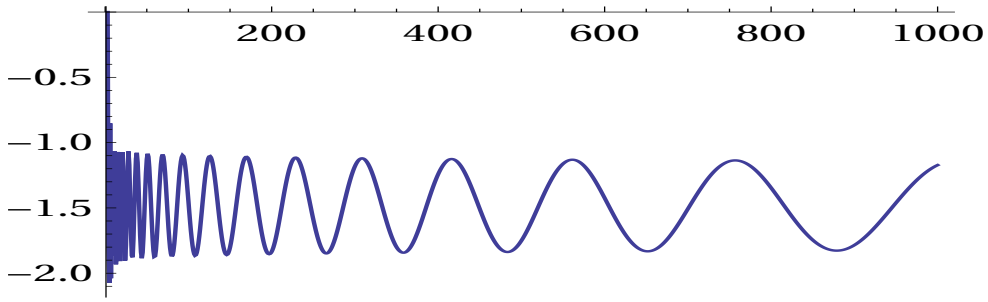
= 0.669446894244212304186195526108561268379 2....



(The axis is 0.05)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.05}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.05}}] \tag{131}$$

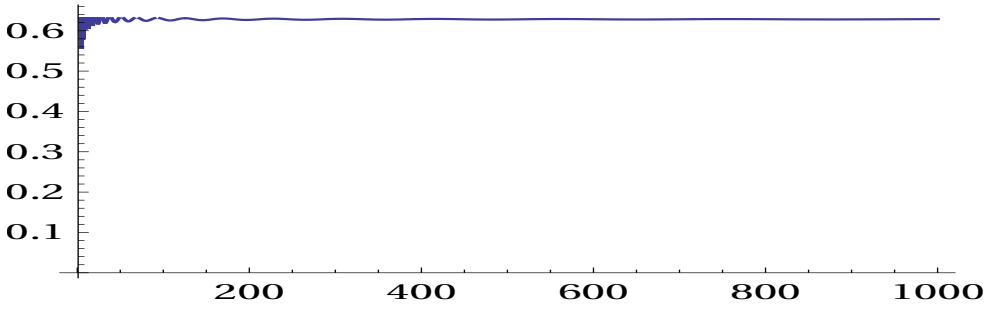
= -1.17202627800410380989751555952648260589 2....



(The axis is 0.95)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.95}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.95}}] \tag{132}$$

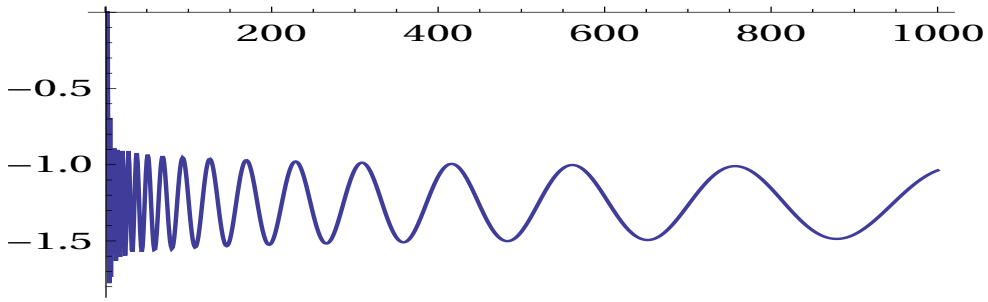
= 0.628793327503768552125482769229183595256....



(The axis is 0.1)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.1}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.1}}] \tag{133}$$

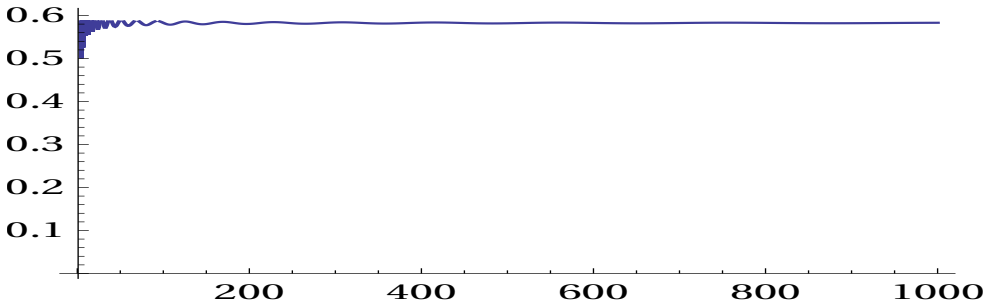
= -1.037181038243812266182221182644218150841....



(The axis is 0.9)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.9}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.9}}] \tag{134}$$

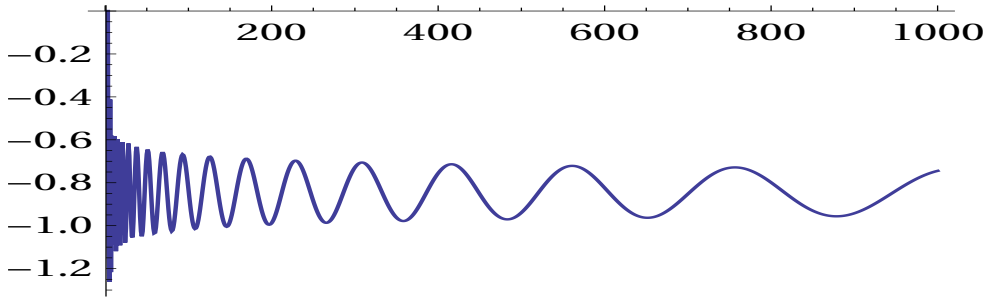
= 0.583091159670182512048364884832666514797 26....



(The axis is 0.2)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.2}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.2}}] \tag{135}$$

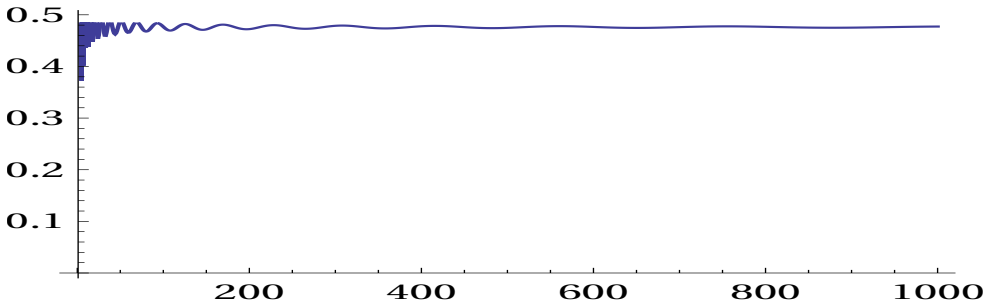
= -0.744793550996695078114144863729528045510 0....



(The axis is 0.8)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.8}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.8}}] \tag{136}$$

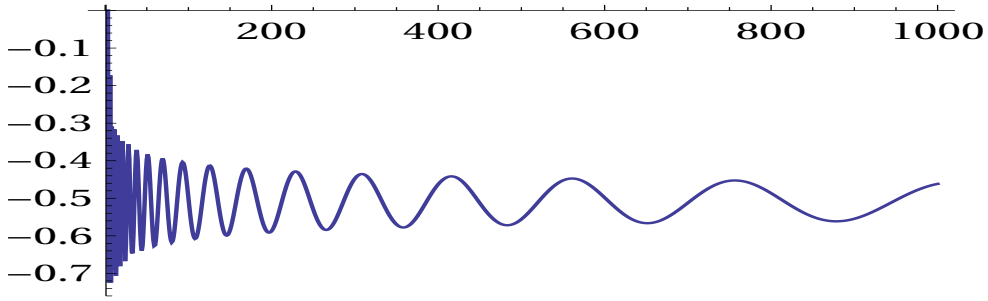
= 0.477262998523577592781968441021480087066 8....



(The axis is 0.3)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.3}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.3}}] \tag{137}$$

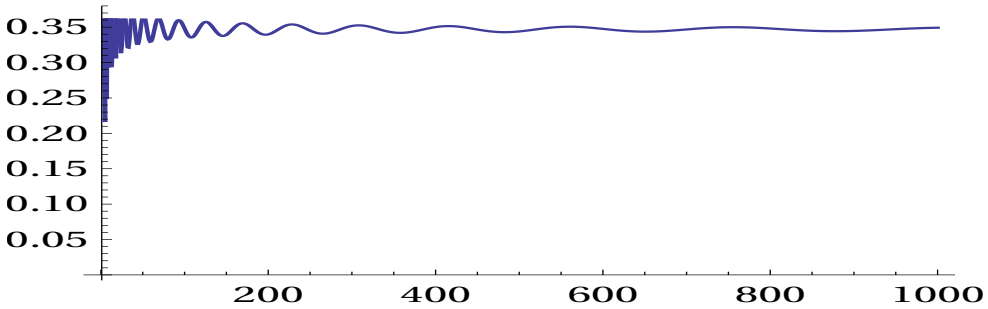
= -0.461695959638792697167789777438384029957 5....



(The axis is 0.7)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.7}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.7}}] \tag{138}$$

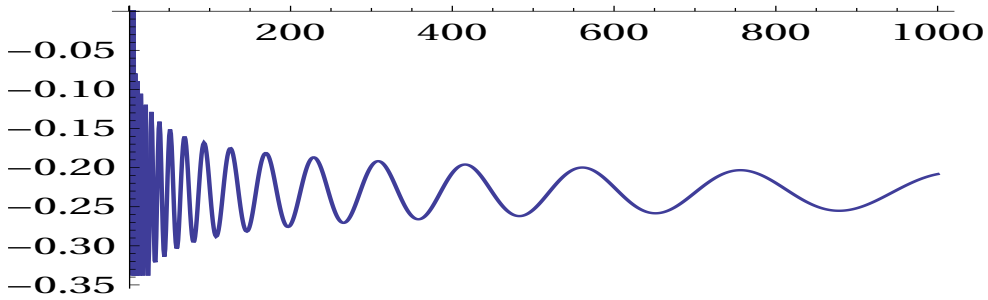
= 0.34917777683621681911737846635035573927 73....



(The axis is 0.4)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.4}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.4}}] \tag{139}$$

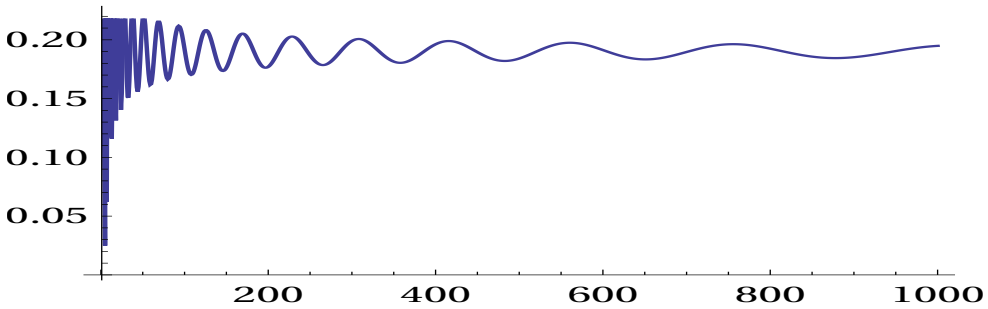
= -0.208278908871937283658286950663559658981 7....



(The axis is 0.6)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.6}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.6}}] \tag{140}$$

= 0.194859060814332403077140728945857530200....



3 conclusion

As mentioned above, although it turned out that the non-trivial zero point of Riemann hypothesis is in the very near edge of the line of real value 0.5, it can not be shown mathematically that it is a line of real value 0.5.
However, non-trivial zero values were shown.
It is to show that the non-trivial zeros of Riemann hypothesis lie on a line of real value 0.5. I think it is nearly impossible.

References

[1] B.Riemann.: Uber die Anzahl der Primzahlen unter einer gegebenen Grosse, Mon. Not. Berlin Akadpp.671-680 (1859)

[2] John Derbyshire.: Prime Obsession: Bernhard Riemann and The Greatest Unsolved Problem in Mathematics, Joseph Henry Press(2003)

key words
Hexagonal circulation, Prime number, Goldbach's conjecture