Consideration of the Riemann hypothesis

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Abstract

I treat Riemann hypothesis as a series and try to prove it, but I have not shown that non-trivial zeros are only present on the real value 0.5, but only as close to 0.5.

The hypothesis could not be proved. Only on the graph and in calculation, only the neighborhood of the real value 0.5 is shown.

It was also shown that non-trivial zero values deviate only by 0.01 and do not converge clearly to 0.

It has been shown graphically and computationally that non-trivial zeros exist only near real numbers 0.5 or 0.5 and can not exist in parts such as real numbers 0.6 or 0.4.

1 Introduction

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

$$\frac{1}{(2n-1)^{2c}} = \frac{(2n-1)^{ix}}{(2n-1)^{c}} = \frac{\cos(x\ln(2n-1)) + i\sin(x\ln(2n-1))}{(2n-1)^{c}} \tag{2}$$

$$\frac{1}{(2n)^{2c}} = \frac{(2n)^{ix}}{(2n)^{c}} = \frac{\cos(x\ln(2n)) + i\sin(x\ln(2n))}{(2n)^{c}} \tag{3}$$

$$\sum_{n=1}^{\infty} [\frac{\cos(x\ln(2n-1)) + i\sin(x\ln(2n-1))}{(2n-1)^{c}} - \frac{\cos(x\ln(2n)) + i\sin(x\ln(2n))}{(2n)^{c}}] \tag{4}$$

$$\sum_{n=1}^{\infty}[\frac{\cos[x\ln(2n-1)]}{(2n-1)^c} - \frac{\cos[x\ln(2n)]}{(2n)^c}] \tag{5}$$

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

Although x is treated as a real number, x is a non-trivial zero values.

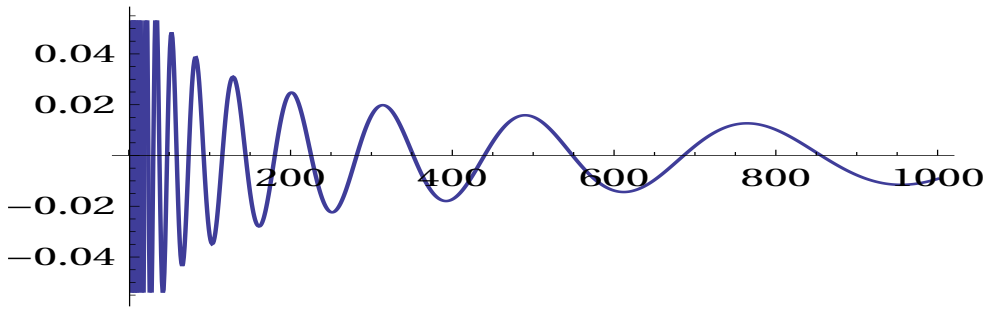
2 Examples

In the graph that clearly does not converge to 0, it is often the case that numerical calculations are omitted.
The graph and the first numerical calculation depended on WolframAlpha on the net.

(14.1347- 0.001)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1337)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(14.1337)\ln(2n)]}{(2n)^{0.5}}] \tag{7}$$

= -0.009225305555779525779463237679646088942314....

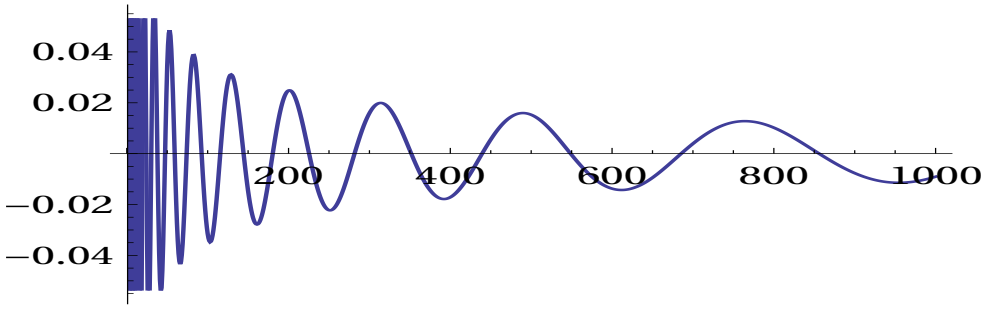


[10000]= 0.0004908595315669325720
[100000]= 0.0009616985990964528738
[1000000]= 0.0001156893510012422144
[10000000]= -0.0001607114065385512091
[100000000]=-0.0001509936635404196949
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.5}}] \tag{8}$$

= -0.009063013671335821519956190406232181070163....

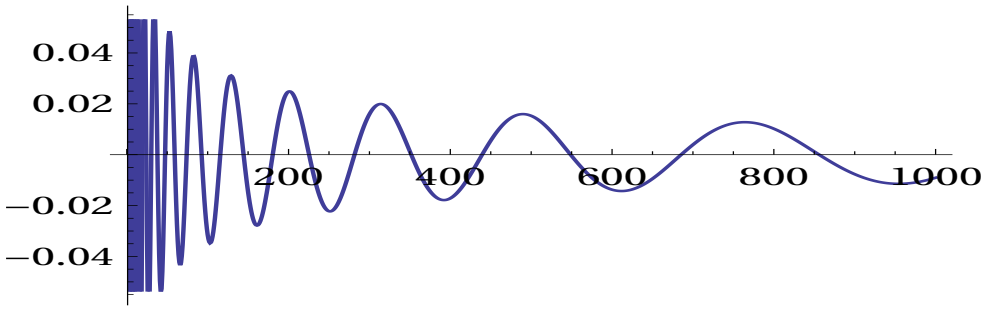


[10000]=0.0006381011115495365026
[100000]=0.0010780432416684295090
[1000000]=0.0002245632899122298001
[10000000]=-0.0000496479275200912434
[100000000]=0.0000382288508812898928
converge to 0.

(14.1347+ 0.01=14.1447)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1447)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(14.1447)\ln(2n)]}{(2n)^{0.5}}] \tag{9}$$

= -0.007243403455155722480043192935285864376....

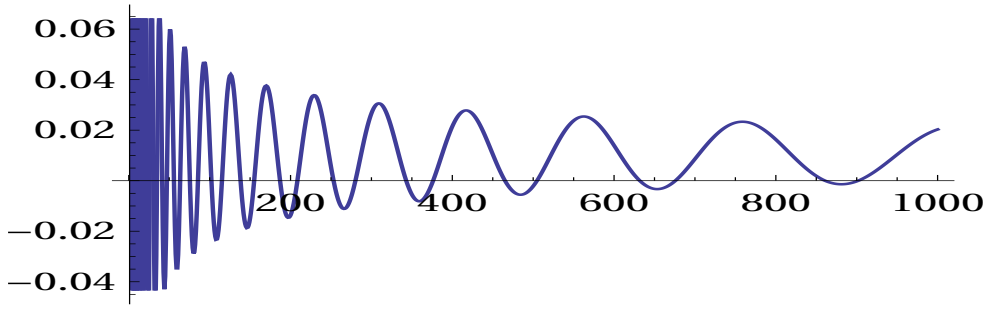


[100000]=0.002400943985953117327 4
[1000000]=0.001479197361182810893 7
[10000000]=0.001230179240683403193 6
[100000000]=0.001258515454485119224 7
It does not converge to 0.

(21.022 - 0.01=21.012)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0120)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(21.0120)\ln(2n)]}{(2n)^{0.5}}] \tag{10}$$

= 0.020284892554040908827580134599210942 9....

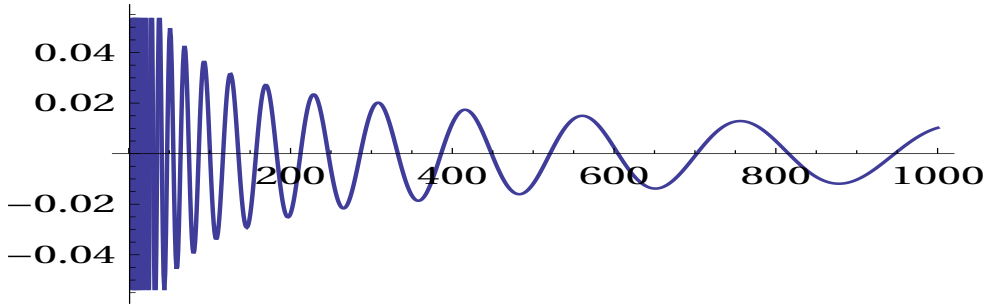


[10000]= 0.0079126943260740684183
[100000]= 0.0100352227300254896042
[1000000]= 0.0108565621646344659390
[10000000]= 0.0104843503975115531074
[100000000]=0.0104746550659218524287
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0220)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(21.0220)\ln(2n)]}{(2n)^{0.5}}] \tag{11}$$

= 0.010203050972979707561650919065336067554 57....

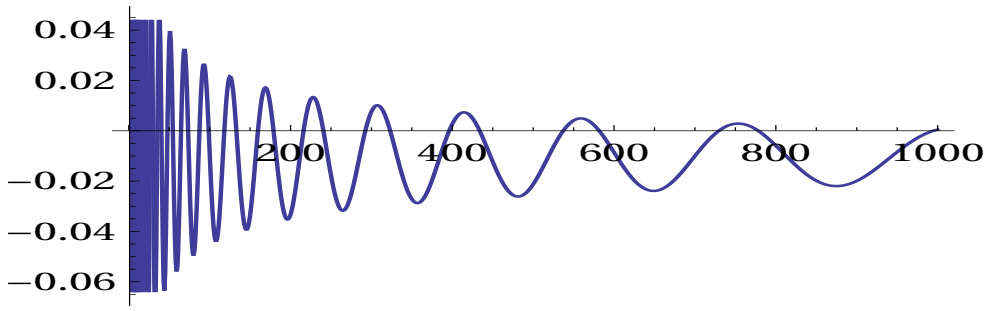


[10000]=-0.0023018856406172511289
[100000]=-0.0005496921657573621087
[1000000]=0.0003817627764431225329
[10000000]=0.0000380957809653702473
[100000000]=0.0000070544092957442871
converge to 0.

(21.0220+0.01=22.0320)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.0320)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(21.0320)\ln(2n)]}{(2n)^{0.5}}] \tag{12}$$

0.009213501661674673769220937361896999026864....

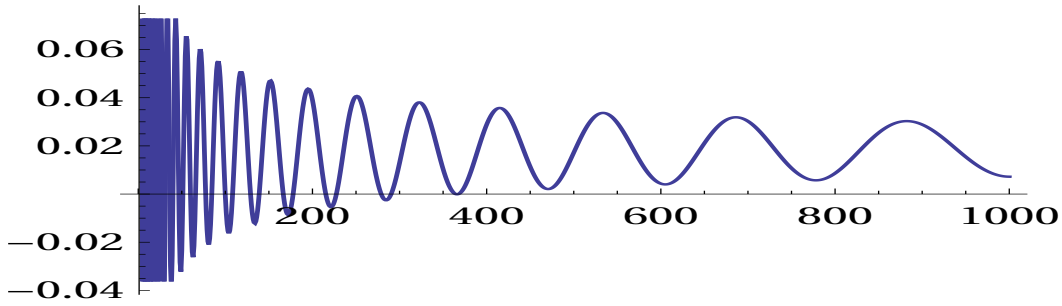


[10000]=-0.0120947862362253185514
[100000]=-0.0107270996987019039820
[1000000]=-0.0097014813569226230477
[10000000]=-0.0100093633835118597103
[100000000]=-0.0100605988203420360777
It does not converge to 0.

(25.0109-0.01=25.0009)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0009)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0009)\ln(2n)]}{(2n)^{0.5}}] \tag{13}$$

= 0.007208956867091058558975679870786427234417....

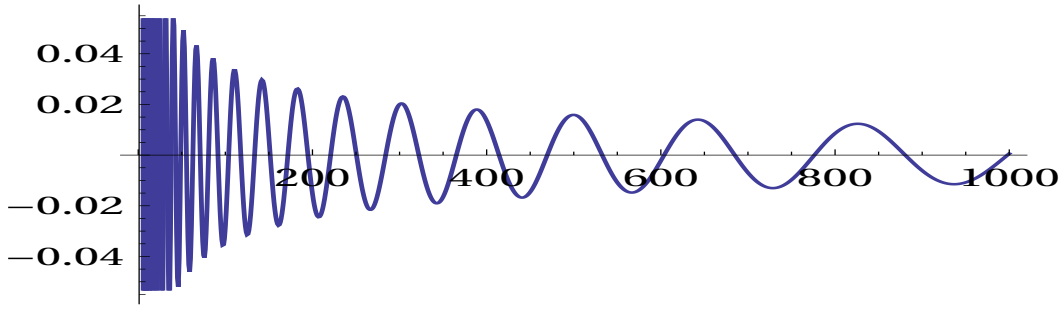


[10000]=-0.0109792843912182164212
[100000]=-0.0129018421697284571548
[1000000]=-0.0138749666260562180137
[10000000]=-0.0140059815308212903817
[100000000]=-0.0139521725046484450922
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0109)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0109)\ln(2n)]}{(2n)^{0.5}}] \tag{14}$$

= 0.000566416876954385417515398449827019508 07....

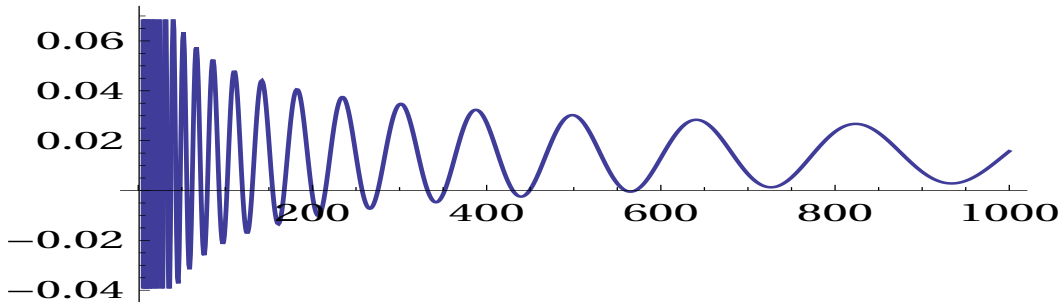


[10000]=0.0031794539716973957769
[100000]=0.0010129648076460495264
[1000000]=0.0000527725990851316977
[10000000]=-0.0000375544556307302004
[100000000]=0.0000296005134758246658
converge to 0.

(25.0109+0.01=25.0209)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0209)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0209)\ln(2n)]}{(2n)^{0.5}}] \tag{15}$$

= 0.015754324638897008068077546402916552259 3....

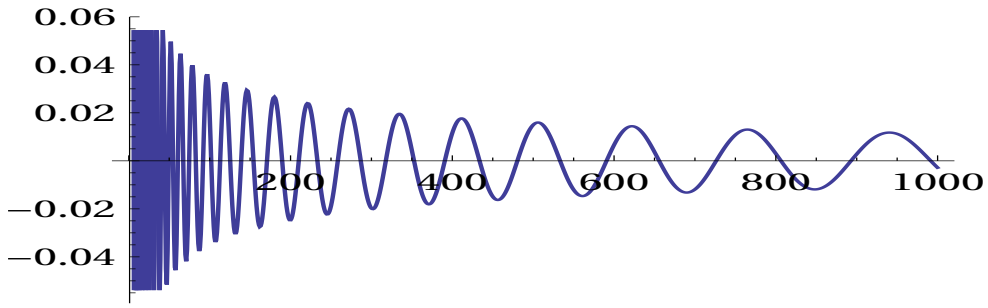


[10000]=0.0176700155045441953394
[100000]=0.0152759853426839738166
[1000000]=0.0143430581229324321385
[10000000]=0.0142960181287969719660
[100000000]=0.0143748762762403066440
It does not converge to 0.

(30.4249 - 0.01=30.4149)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4149)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(30.4149)\ln(2n)]}{(2n)^{0.5}}] \tag{16}$$

= -0.0028564090182572409517325344565291710 1....

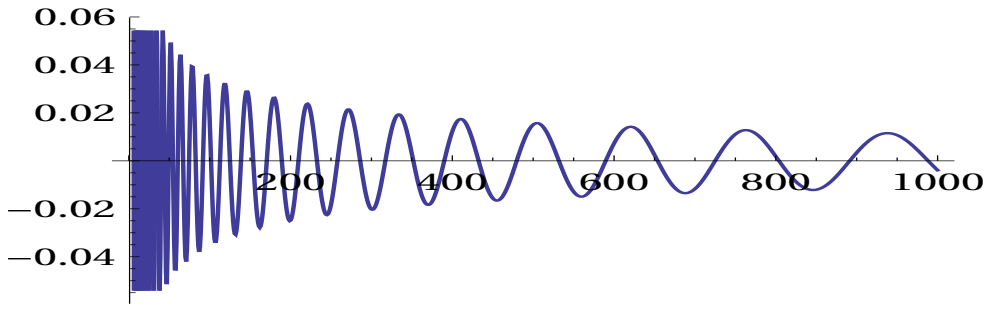


[10000]= -0.0030388948279709746512
[100000]= -0.000713450161082622956 5
[1000000]= 0.000205933985528745683 5
[10000000]= 0.000326759599954465915 6
[100000000]=0.000281242959445802444 3
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4249)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(30.4249)\ln(2n)]}{(2n)^{0.5}}] \tag{17}$$

= -0.0039090902351357602935409305501247 7....

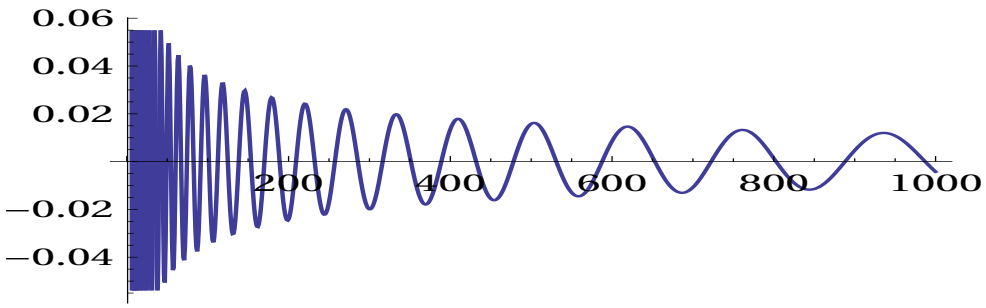


[10000]=-0.0033980444366637999748
[100000]=-0.000882537993071232963 7
[1000000]=0.000011083569830365422 8
[10000000]=0.000092555527005998150 9
[100000000]=0.000033542737343197381 9
converge to 0.

(30.4249+0.01=30.4349)

$$\sum_{n=1}^{1000}[\frac{\cos[(30.4349)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(30.4349)\ln(2n)]}{(2n)^{0.5}}] \tag{18}$$

-0.004252440526184255650794899059877558....

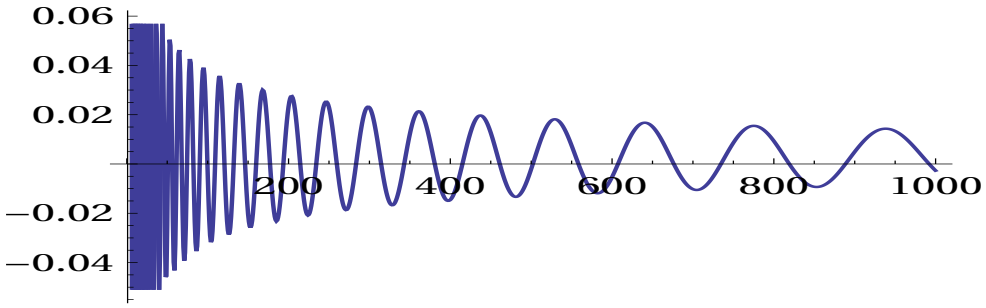


[10000]=-0.0030371364011003336783
[100000)=-0.00035173518314078307 60
[1000000]=0.000502759847204647 2316
[10000000]=0.0005425030774031609814
[100000000]=0.0004713839500665595187
It does not converge to 0.

(32.9351 -0.01=32.9251)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9251)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(32.9251)\ln(2n)]}{(2n)^{0.5}}] \tag{19}$$

= -0.0027020078807583326034090009613837....

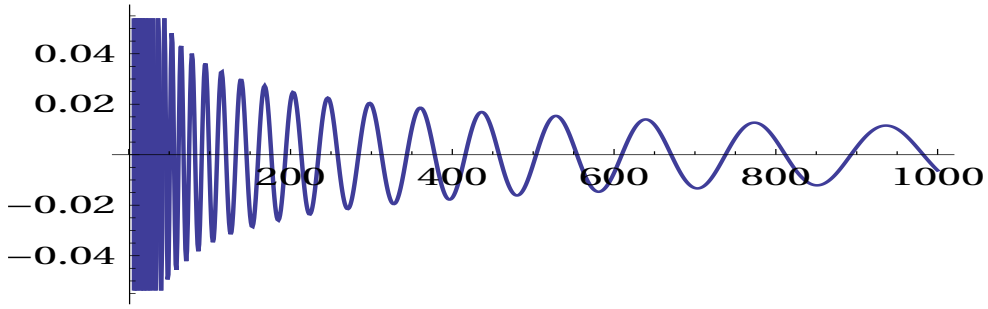


[10000]=-0.0000354846146526247106
[100000]=0.0016892426191820577100
[1000000]=0.0024278271134448151970
[10000000]=0.0026830551451150455762
[100000000]=0.0027569421199088403086
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9351)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(32.9351)\ln(2n)]}{(2n)^{0.5}}] \tag{20}$$

= -0.006211350232338428548135531520246 2....

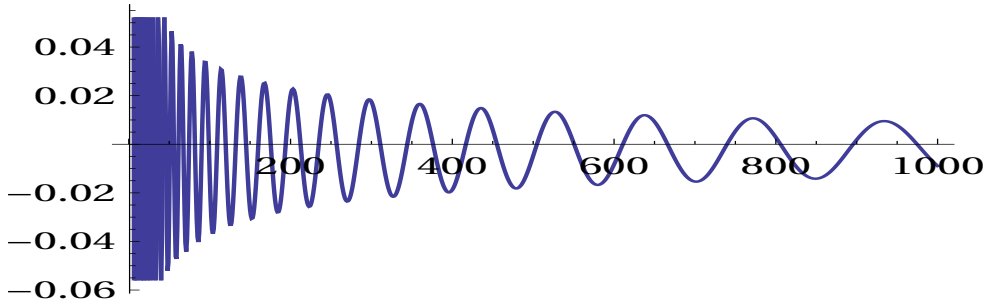


[10000]=-0.003018797493381407924 5
[100000)=-0.001119835802249660164 0
[1000000]=-0.000344639514090284873 4
[10000000]=-0.000090324813304388352 3
[100000000]=-0.000022159407427302588 0
converge to 0.

(32.9351+0.01= 32.9451)

$$\sum_{n=1}^{1000}[\frac{\cos[(32.9451)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(32.9451)\ln(2n)]}{(2n)^{0.5}}] \tag{21}$$

= -0.008931280247269008024066371515947 13....

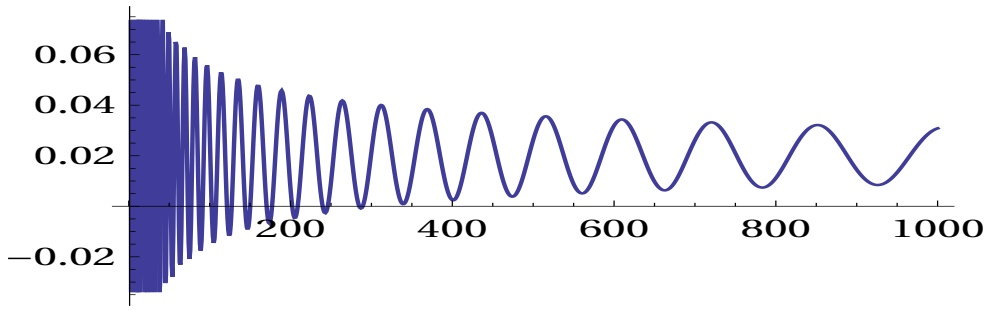


[10000]=-0.005219021598285153093 5
[100000]= -0.003158792996609591403 9
[1000000]=-0.002356463251847937517 1
[10000000]=-0.002107823633125656057 1
[100000000]=-0.002047195604632193188 8
It does not converge to 0.

(37.5862- 0.01= 37.5762)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5762)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(37.5762)\ln(2n)]}{(2n)^{0.5}}] \tag{22}$$

0.030834015062143617825619153097923....

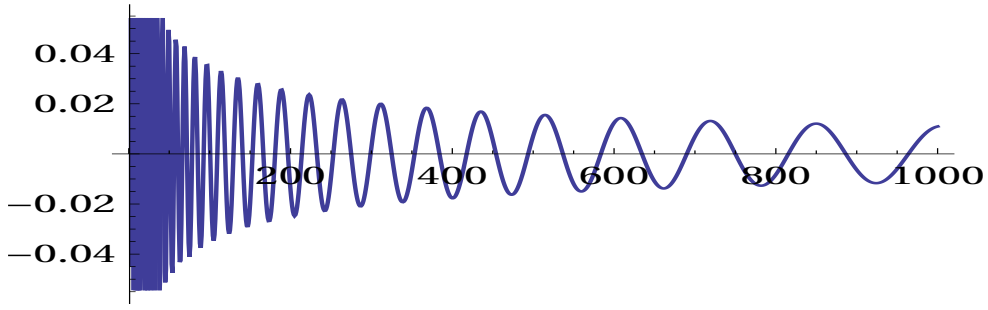


[10000]=0.0195359368608285441371
[100000]=0.0189196414524257991441
[1000000]=0.0199973689427138945351
[10000000]=0.0201460868782911001196
[100000000]=0.020050376058501337417 4
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5862)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(37.5862)\ln(2n)]}{(2n)^{0.5}}] \tag{23}$$

0.010941795390264808277991901745991142 8....

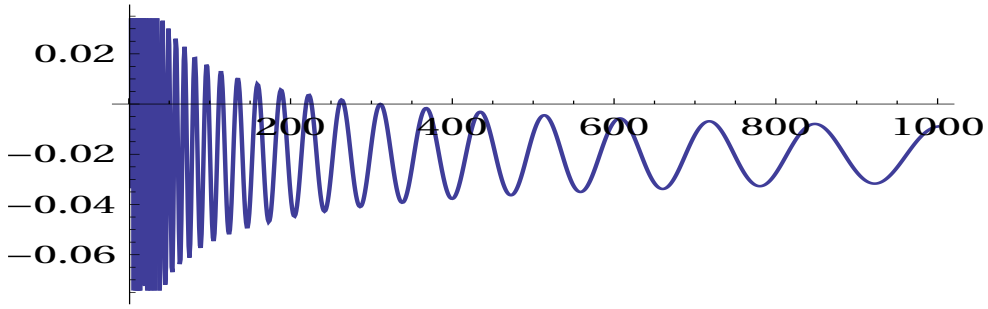


[10000]=-0.000196923725782987852 5
[100000]=-0.001155377348178915786 9
[1000000]=-0.000134341606145132818 4
[10000000]=0.000058716717248990884 2
[100000000]=-0.000024945916912974887 3
converge to 0.

(37.5862 +0.01= 37.5962)

$$\sum_{n=1}^{1000}[\frac{\cos[(37.5962)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(37.5962)\ln(2n)]}{(2n)^{0.5}}] \tag{24}$$

= -0.00894602089682195247379395232735 62....

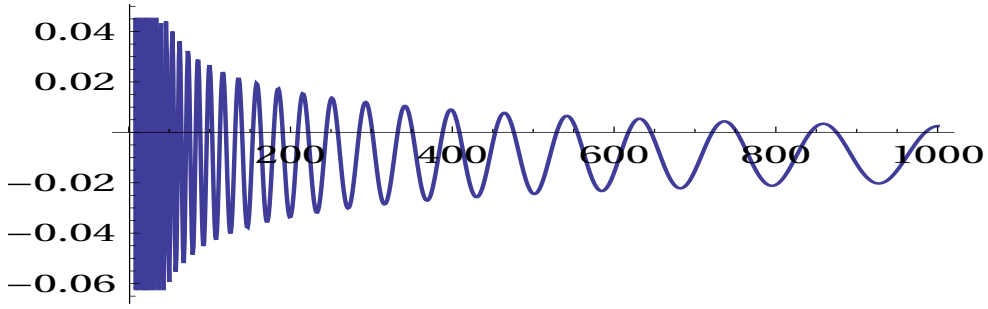


[10000]=-0.019860438813549270709 0
[100000]=-0.021146010572073603572 8
[1000000]=-0.020196304613078114309 5
[10000000]=-0.019963698911792331081 0
[100000000]=-0.020033109532961002052 8
It does not converge to 0.

(40.9187 -0.01= 40.9087)

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9087)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(40.9087)\ln(2n)]}{(2n)^{0.5}}] \tag{25}$$

=0.00248093561144567463626037082051005....

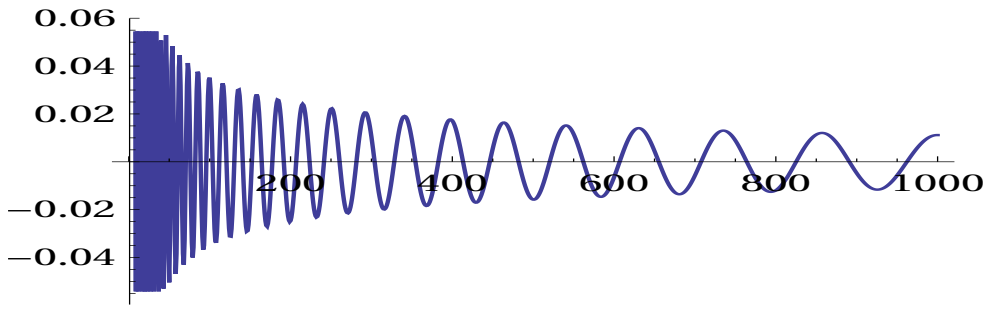


[10000]=-0.005167783348978101203 0
[100000]=-0.007575156875580280578 5
[1000000]=-0.008331223600744662796 7
[10000000]=-0.008568046737592489858 8
[100000000]=-0.008642018950006009198 1
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9187)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(40.9187)\ln(2n)]}{(2n)^{0.5}}] \tag{26}$$

= 0.011161443040664347323838871759731....

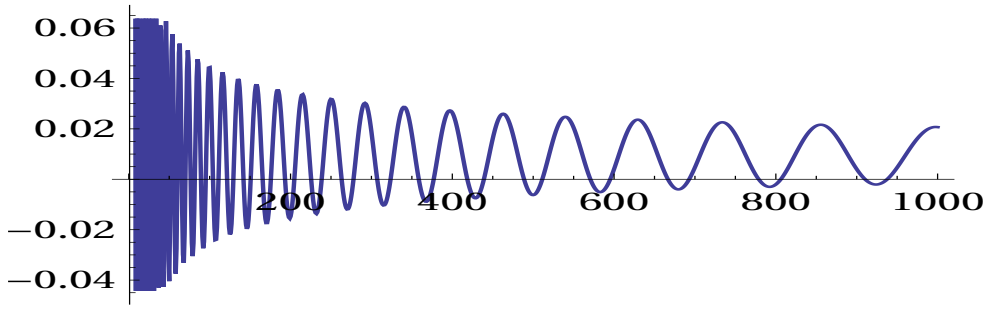


[10000]=0.0035169104243255207287
[100000]=0.0010989171823213882747
[1000000]=0.00033492813420707748 77
[10000000]=0.0000937391247718045875
[100000000]=0.000017660473451030 5102
converge to 0.

(40.9187 +0.01= 40.9287)

$$\sum_{n=1}^{1000}[\frac{\cos[(40.9287)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(40.9287)\ln(2n)]}{(2n)^{0.5}}] \tag{27}$$

= 0.020687831213847101540936884668 6....

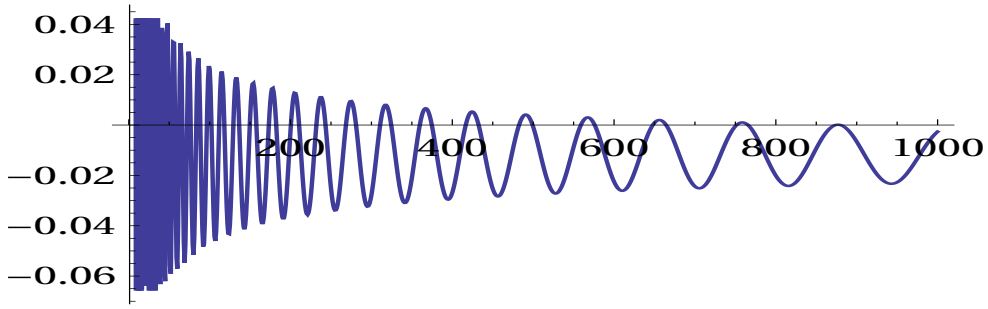


[10000]=0.013077406670826262 3471
[100000]=0.010666818924865961 3794
[1000000]=0.009904115606722899 1455
[10000000]=0.009662831167002216 0734
[100000000]=0.009586503244944534 8323
It does not converge to 0.

(43.3271 -0.01= 43.3171)

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3171)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(43.3171)\ln(2n)]}{(2n)^{0.5}}] \tag{28}$$

= -0.00262718446428192447061238726 47....

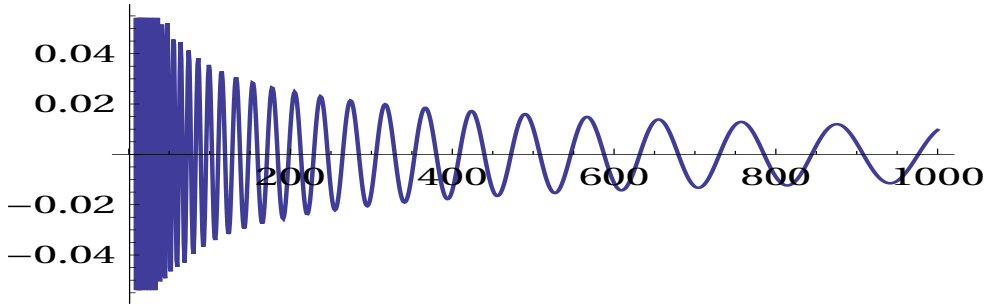


[10000]=-0.0112300972457555110762
[100000]=-0.012463077642404509 2848
[1000000]=-0.012156828353971655 5375
[10000000]=-0.011897480026873120 2568
[100000000]=-0.011812625215642354 8756
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3271)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(43.3271)\ln(2n)]}{(2n)^{0.5}}] \tag{29}$$

= 0.00967090626015688414351433031 1804340....

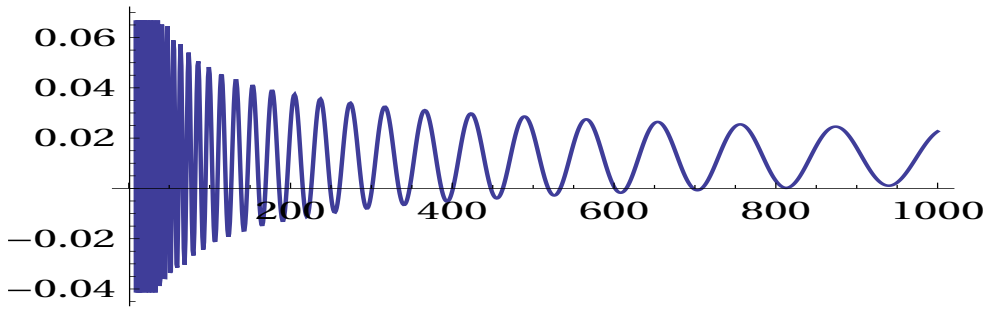


[10000]=0.0009520515105505345573
[100000]=-0.0005078252057554809556
[1000000]=-0.0003051887688908388216
[10000000]=-0.0000672058546933808392
converge to 0.

(43.3271 +0.01= 43.3371)

$$\sum_{n=1}^{1000}[\frac{\cos[(43.3371)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(43.3371)\ln(2n)]}{(2n)^{0.5}}] \tag{30}$$

= 0.009670906260156884143514330 3118....

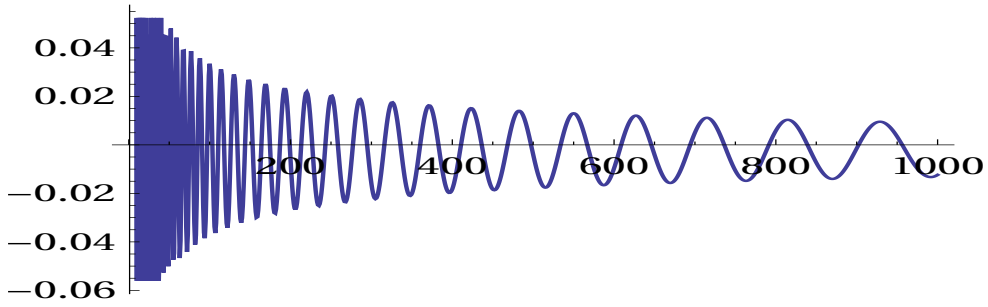


[10000]=0.0138611334436689482424
[100000]=0.0121914127967915099371
[1000000]= 0.0122894928302838823964
[10000000]=0.0125018265102611169509
It does not converge to 0.

(48.0052 -0.01=47.9952)

$$\sum_{n=1}^{1000}[\frac{\cos[(47.9952)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(47.9952)\ln(2n)]}{(2n)^{0.5}}] \tag{31}$$

= -0.012377763685720218921643303546....

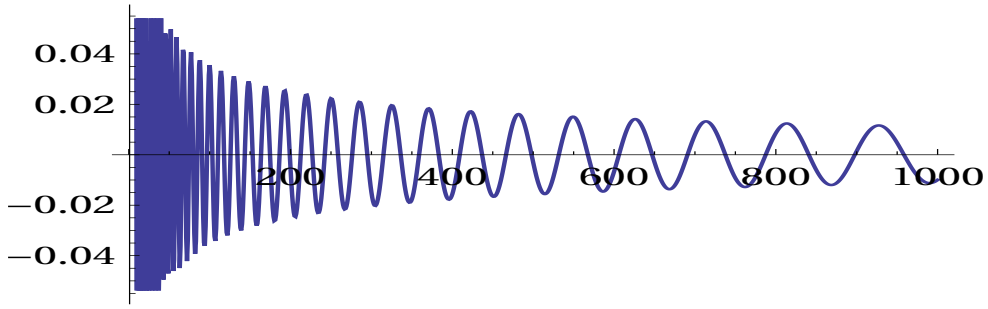


[10000]=0.0000285799991242556995
[100000]=-0.0021376413863578289966
[1000000]=-0.0022192255925806937331
[10000000]=-0.0019585239647509334292
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(48.0052)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(48.0052)\ln(2n)]}{(2n)^{0.5}}] \tag{32}$$

= -0.009954710963835234494265321374....

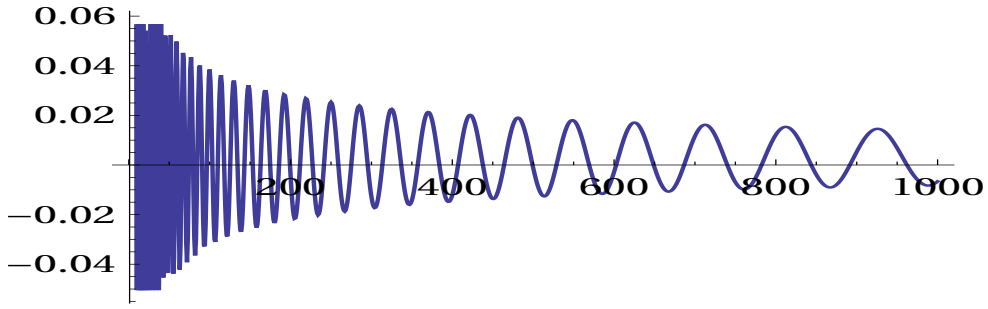


[10000]=0.0018032285340410843938
[100000]=0.0000660014107200388242
[1000000]=-0.0001954933851270815727
[10000000]=0.0001168501874528188322
[100000000]=-0.0000222158682941726699
converge to 0.

(48.0052 +0.01=48.0152)

$$\sum_{n=1}^{1000}[\frac{\cos[(48.0152)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(48.0152)\ln(2n)]}{(2n)^{0.5}}] \tag{33}$$

= -0.006597815652933799915294435589....

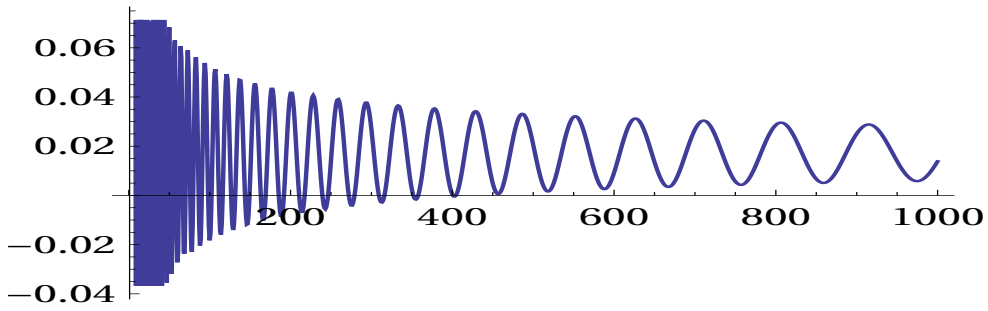


[10000]= 0.004436609451601607884 1
[100000]=0.003145128502502252555 0
[1000000]=0.002708888632252643910 4
[10000000]=0.003065559934436537081 1
[100000000]=0.002923420376922195636 9
It does not converge to 0.

(49.7738- 0.01=49.7638)

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7638)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(49.7638)\ln(2n)]}{(2n)^{0.5}}] \tag{34}$$

= 0.013838181877048842824089368339....

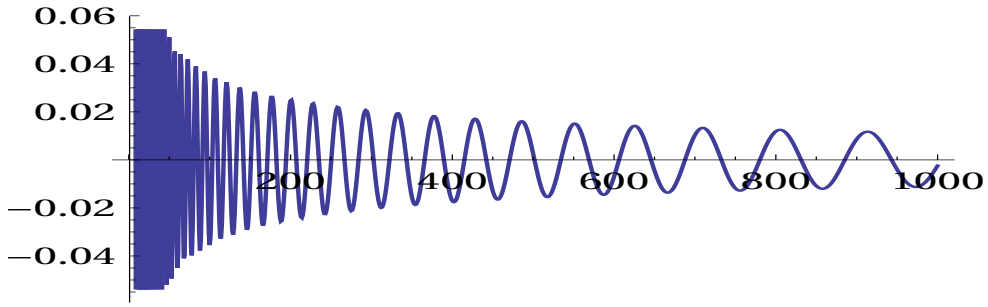


[10000]=0.020403758923646021783 4
[100000]=0.017652448395997277774 7
[1000000]=0.016839165869566175698 4
[10000000]=0.017071601396788208676 6
[100000000]=0.017165092076171818702 4
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7738)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(49.7738)\ln(2n)]}{(2n)^{0.5}}] \tag{35}$$

= -0.002425522478434600029779024059 86....

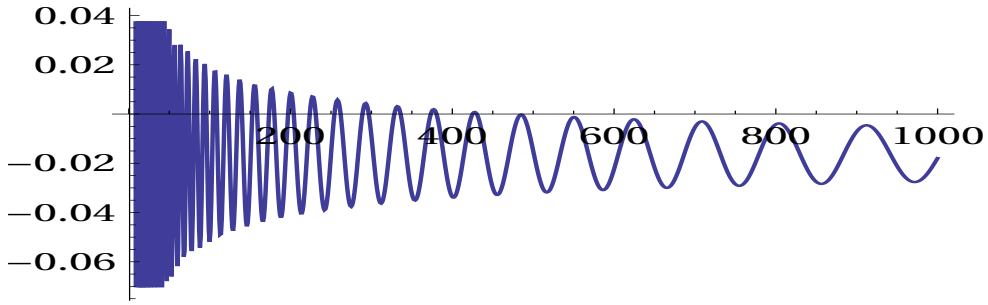


[10000]=0.003437461379815560241 8
[100000]=0.000443350827807394913 4
[1000000]=-0.000269226955820849782 7
[10000000]=0.000003144836460687290 6
[100000000]=0.000001697110937629287 3
converge to 0.

(49.7738+ 0.01=49.7838)

$$\sum_{n=1}^{1000}[\frac{\cos[(49.7838)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(49.7838)\ln(2n)]}{(2n)^{0.5}}] \tag{36}$$

= -0.017925530427917274476344602323795 46....

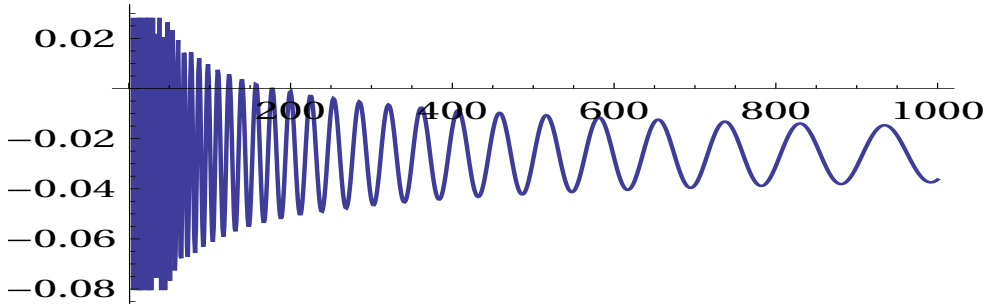


[10000]=-0.012812615590211899 6077
[100000]=-0.016022160704449457 6688
[1000000]=-0.016621446336071092 6199
[10000000]=-0.016314494450491569 9601
[100000000]=-0.016247430250559545 5398
It does not converge to 0.

(52.9703 -0.01=52.9603)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{37}$$

= -0.036355181418336957787246132966042....

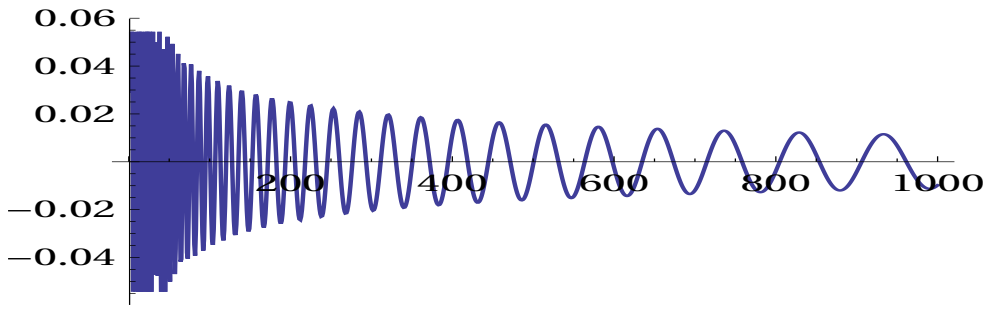


[10000]=-0.022724393014825275 4053
[100000]=-0.027051215817451498 8351
[1000000]=-0.026126518804128518 5971
[10000000]=-0.026184166125998539 7647
[100000000]=-0.026246061598342640 4085
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9703)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(52.9703)\ln(2n)]}{(2n)^{0.5}}] \tag{38}$$

=0.009478520014068748098587 4....

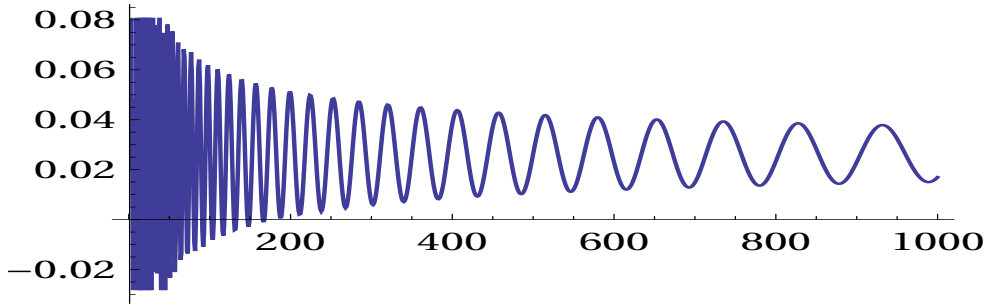


[10000]=0.0034739734404261226469
[100000]=-0.0009736503195389328066
[1000000]=0.0000840864838235658814
[10000000]=-0.0000402288186734236711
[100000000]=-0.0000791109926 464973008
converge to 0.

(52.9703+ 0.01=52.9803)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9803)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(52.9803)\ln(2n)]}{(2n)^{0.5}}] \tag{39}$$

= -0.025638210257456366874529600147.....

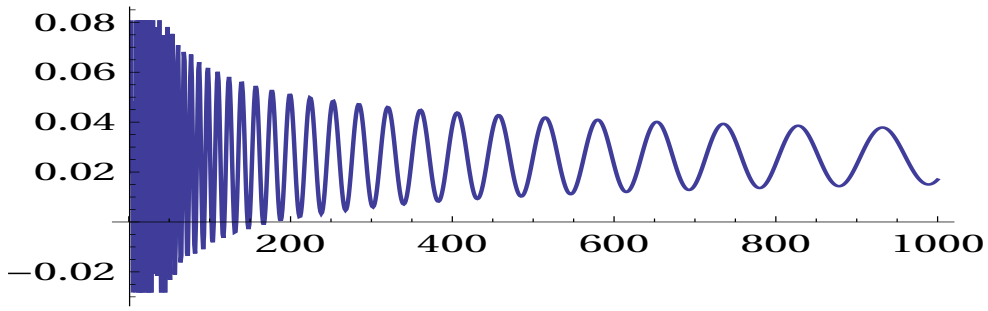


[10000]=0.029800914963202713 2981
[100000]=0.025280736814556149 7941
[1000000]=0.026454912481786985 8728
[10000000]=0.026266425486167494 6462
[100000000]=0.026251839948528362 5283
It does not converge to 0.

(56.4462- 0.01=56.4362)

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{40}$$

= 0.026613628503627737189719746367 37....

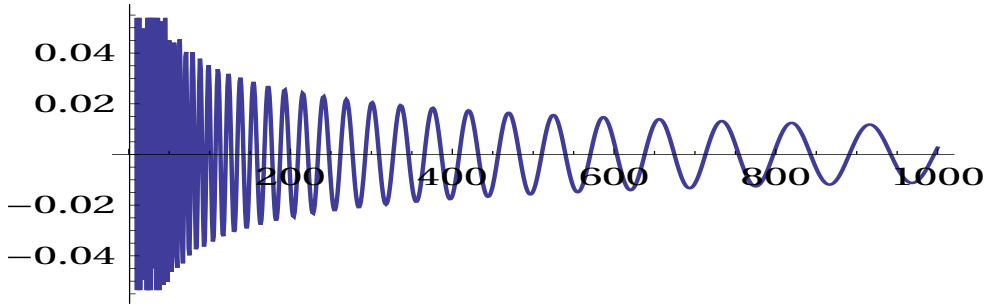


[10000]=0.0215213375849595336953
[100000]=0.0256454199486976612554
[1000000]=0.0250592910221035559959
[10000000]=0.024800539648018208 4551
[100000000]=0.0249269290298672584194
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(52.9603)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(52.9603)\ln(2n)]}{(2n)^{0.5}}] \tag{41}$$

= 0.0026518413102086547400105492 9688....

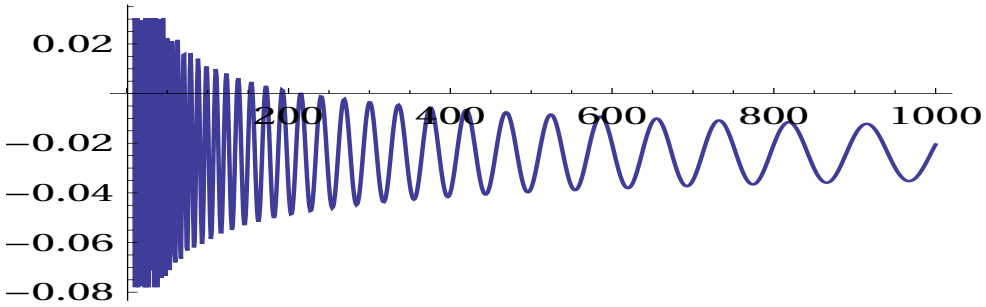


[10000]=-0.0033569416558486631433
[100000)=0.0007412009666034661236
[1000000]=0.0003082564029241538104
[10000000]=0.0000061648527900334994
[100000000]=0.0001245625213175247570
converge to 0.

(56.4462+ 0.01=56.4562)

$$\sum_{n=1}^{1000}[\frac{\cos[(56.4562)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(56.4562)\ln(2n)]}{(2n)^{0.5}}] \tag{42}$$

= -0.020518507917862853064414308975874....

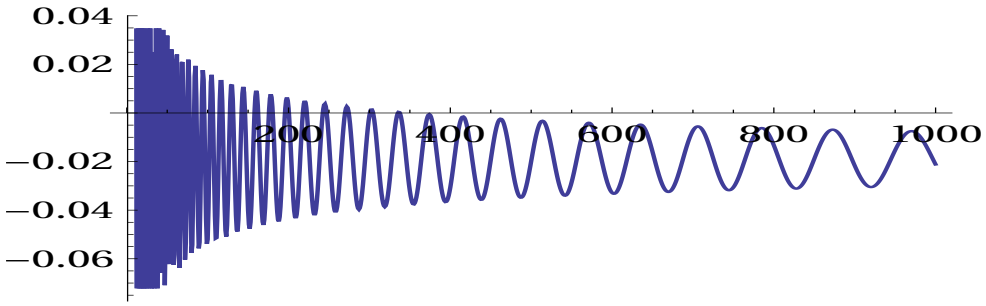


[10000]=-0.0273951025018738907046
[100000]=-0.0233662356193842200847
[1000000]=-0.0236407303330016561882
[10000000]=-0.0239790227111441045516
[100000000]=-0.0238720224947596565412
It does not converge to 0.

(59.3470 -0.01=59.3370)

$$\sum_{n=1}^{1000}[\frac{\cos[(59.337)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(59.337)\ln(2n)]}{(2n)^{0.5}}] \tag{43}$$

= -0.021175444078681470090466446598 13....

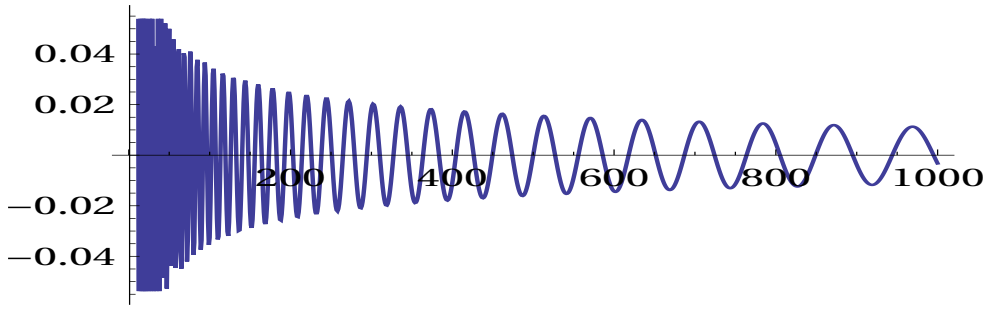


[10000]=-0.015347093530164262337 2
[100000]=-0.018683234503513303920 2
[1000000]=-0.019185109246576837610 5
[10000000]=-0.018841620725952832465 8
[100000000]=-0.018798136991556874814 1
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(59.347)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(59.347)\ln(2n)]}{(2n)^{0.5}}] \tag{44}$$

= -0.00324939742781742626257297031928....

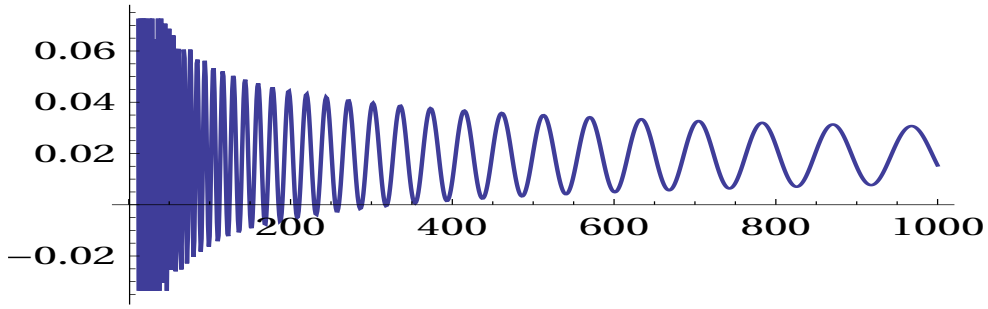


[10000]=0.0033272037996214297653
[100000]=0.0001999944676262767817
[1000000]=-0.0004266637864907864286
[10000000]=-0.0001107110726185287755
[100000000]=-0.0000496121879175364362
converge to 0.

(59.3470 +0.01=59.3570)

$$\sum_{n=1}^{1000}[\frac{\cos[(59.357)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(59.357)\ln(2n)]}{(2n)^{0.5}}] \tag{45}$$

= 0.015367463727157590145364138880942 6....

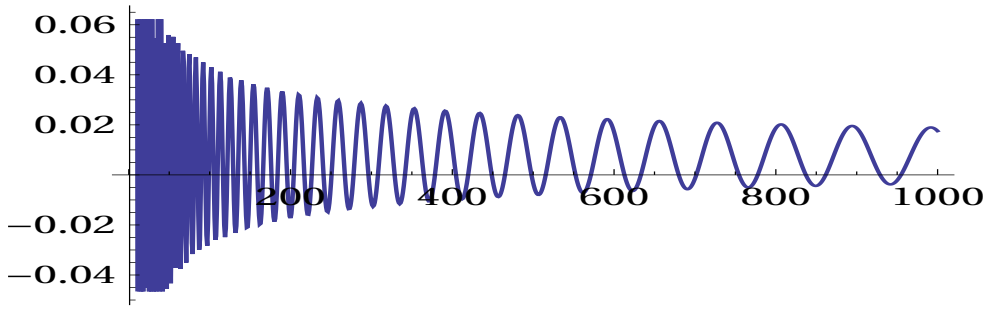


[10000]=0.022640605980271066 8549
[100000]=0.019751531911913520 4288
[1000000]=0.019011516493472220 5570
[10000000]=0.019293485995044584 0304
[100000000]=0.019370194331578965 9739
It does not converge to 0.

(60.8318 -0.01=60.8218)

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8218)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(60.8218)\ln(2n)]}{(2n)^{0.5}}] \tag{46}$$

= 0.017535560535969578881737935277711....

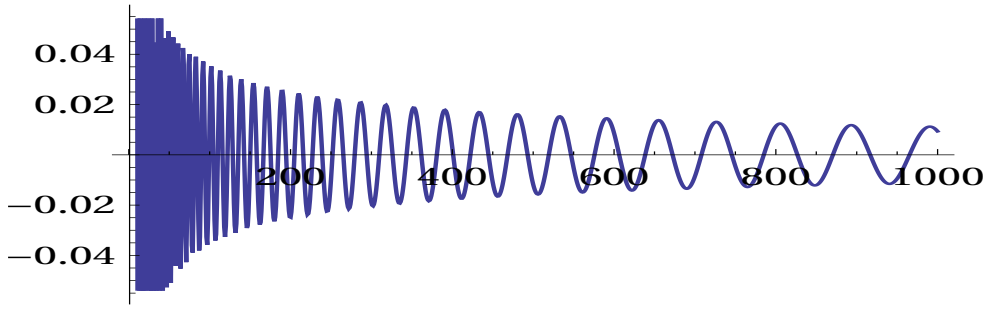


[10000]=0.0053634168996513102365
[100000]=0.007109729055579180371
[1000000]=0.008065613745953006952 2
[10000000]=0.007743853421453376732 8
[100000000]=0.007697906272385283618 6
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8318)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(60.8318)\ln(2n)]}{(2n)^{0.5}}] \tag{47}$$

= 0.009350453395631120028330356599623 20....

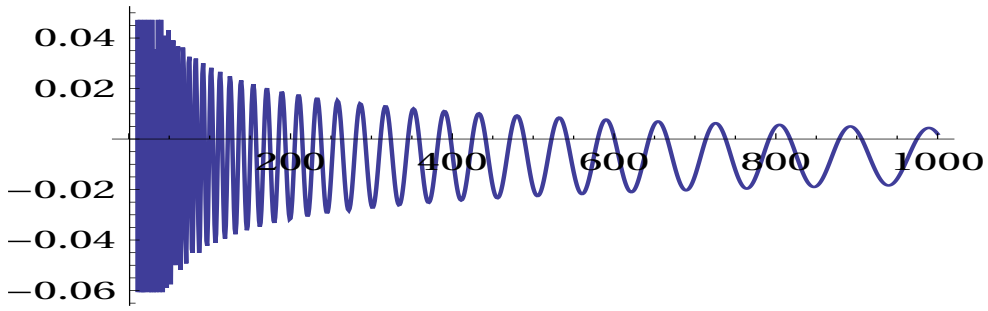


[10000]=-0.002632948991069503780 2
[100000]=-0.000521142704765876346 7
[1000000]=0.000330865068159751996 4
[10000000]=-0.000023450436757911728 7
[100000000]=-0.000048999791468433071 73
converge to 0.

(60.8318 +0.01=60.8418)

$$\sum_{n=1}^{1000}[\frac{\cos[(60.8418)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(60.8418)\ln(2n)]}{(2n)^{0.5}}] \tag{48}$$

= 0.00203403248728673701597324233170631 80....

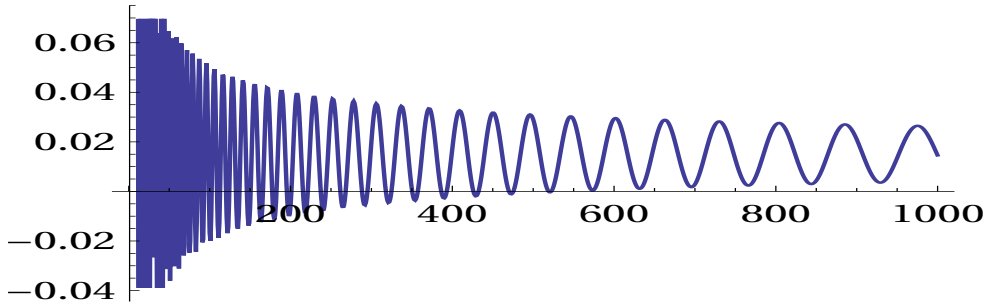


[10000]=-0.009680890296109556 3006
[100000]=-0.007221717396379519 3783
[1000000]=-0.006488389888411534 2315
[10000000]=-0.006867759299354036 5410
[100000000]=-0.006871912484246664 4543
It does not converge to 0.

(65.1125 -0.01=65.1025)

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1025)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(65.1025)\ln(2n)]}{(2n)^{0.5}}] \tag{49}$$

= 0.01455354766716725850019791519965069408....

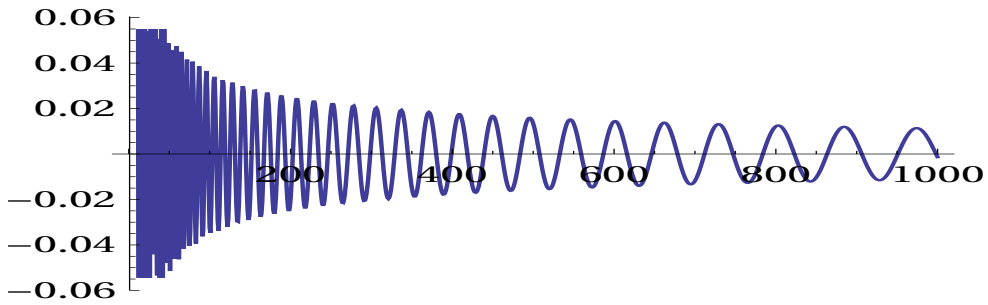


[10000]=0.017813066213943299 5039
[100000]=0.016248499294891100 7027
[1000000]=0.015317831629496304 5435
[10000000]=0.015105301227293184 0715
[100000000]=0.015114015191075687 9994
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1125)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(65.1125)\ln(2n)]}{(2n)^{0.5}}] \tag{50}$$

= -0.0013760257837058265259987472825....

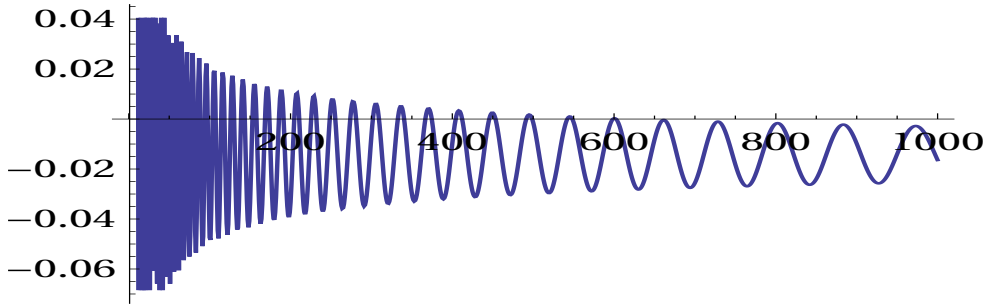


[10000]=0.0024868485483015901651
[100000]=0.0011808038497076905112
[1000000]=0.0002774053647495089620
[10000000]=0.0000397292122541242009
[100000000]=0.0000330684738521100997
converge to 0.

(65.1125 +0.01=65.1225)

$$\sum_{n=1}^{1000}[\frac{\cos[(65.1225)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(65.1225)\ln(2n)]}{(2n)^{0.5}}] \tag{51}$$

= -0.016393718890422239775885440360255 66....

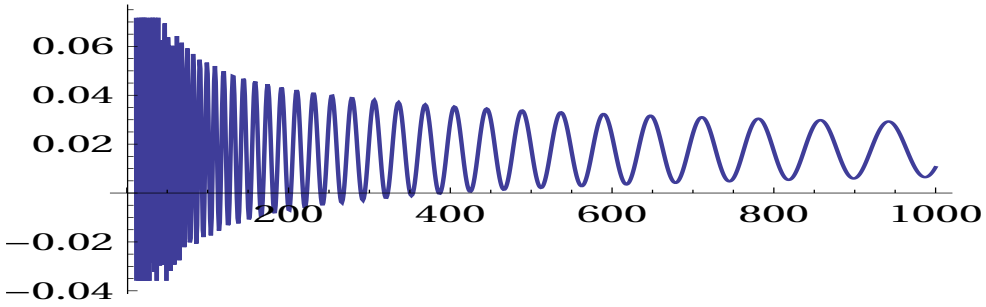


[10000]=-0.011959546759986533 4929
[100000]=-0.012999941574092174 0736
[1000000]=-0.013863934007754728 7833
[10000000]=-0.014121583994190381 1144
[100000000]=-0.014143173409602175 2972
It does not converge to 0.

(67.0798 -0.01=67.0698)

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0698)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(67.0698)\ln(2n)]}{(2n)^{0.5}}] \tag{52}$$

= 0.010543401012985978748273709953560 65....

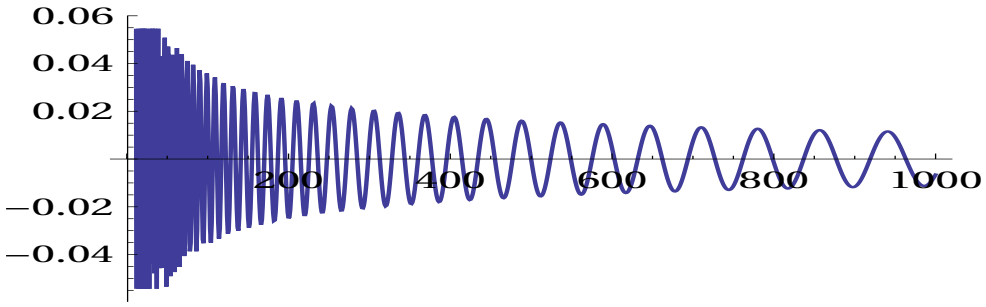


[10000]=0.0185272576419921730650
[100000]=0.0180575446703839549711
[1000000]=0.0175087936290795401217
[10000000]=0.0178615209629044355277
[100000000]=0.0177201662173655516419
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0798)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(67.0798)\ln(2n)]}{(2n)^{0.5}}] \tag{53}$$

= -0.006523754229361230117729034342 5925....

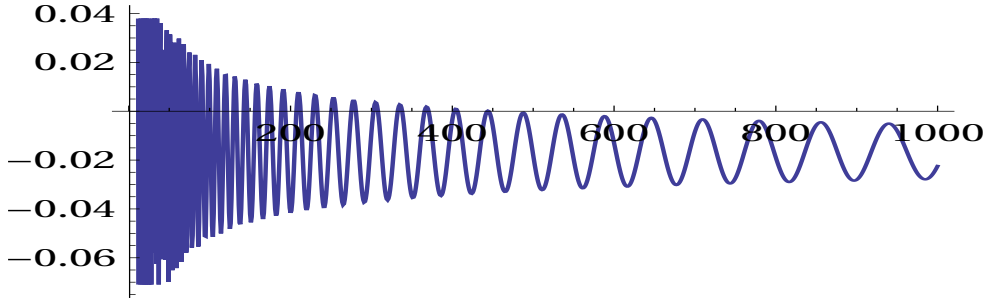


[10000]=0.0004455620242284032877
[100000]=0.0004495504034751115607
[1000000]=-0.0002621111366443582480
[10000000]=0.0001288477260946204589
[100000000]=-0.0000147163868139592400
converge to 0.

(67.0798 +0.01=67.0898)

$$\sum_{n=1}^{1000}[\frac{\cos[(67.0898)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(67.0898)\ln(2n)]}{(2n)^{0.5}}] \tag{54}$$

= -0.022435645618969822822622562110867639....

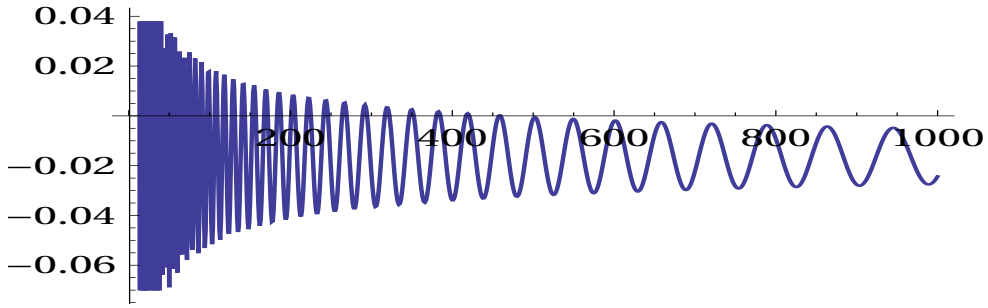


[10000]=-0.0165228379532093849758
[100000]=-0.0160473792921948035795
[1000000]=-0.0169096431198623928238
[10000000]=-0.0164894634928593915302
[100000000]=-0.0166309192179651989252
It does not converge to 0.

(69.5464 -0.01= 69.5364)

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5364)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(69.5364)\ln(2n)]}{(2n)^{0.5}}] \tag{55}$$

= -0.024329757796205405956618433175730325 9....

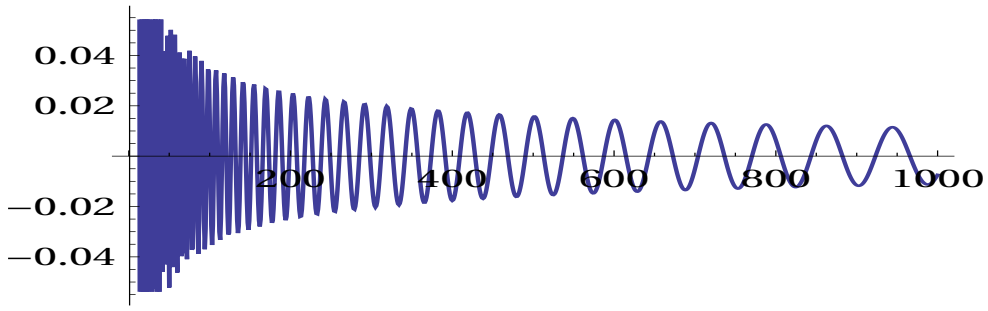


[10000]=-0.013473479241616180 1992
[100000]=-0.017257898558009011 2084
[1000000]=-0.015975377063139305 2226
[10000000]=-0.016403048592062957 6224
[100000000]=-0.016262394787241944 7047
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5464)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(69.5464)\ln(2n)]}{(2n)^{0.5}}] \tag{56}$$

= -0.007421949818682513341087904880751 53....

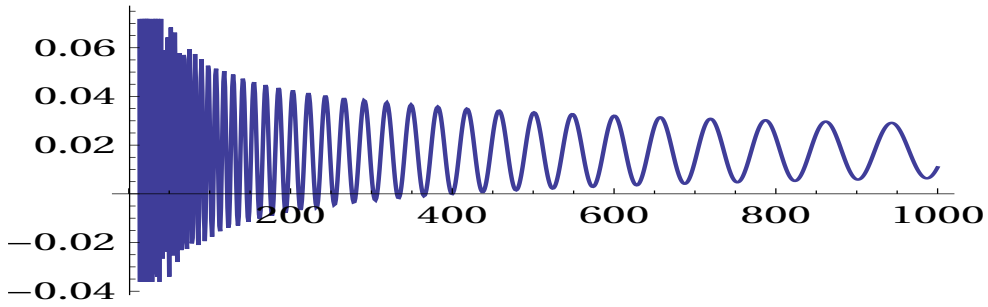


[10000]=0.0025963455525007681293
[100000)=-0.000887121136705024 0836
[1000000]=0.0002940474711544655657
[10000000]=-0.000101606220365007 9822
[100000000]=0.000029602517015756 9742
converge to 0.

(69.5464 +0.01=69.5564)

$$\sum_{n=1}^{1000}[\frac{\cos[(69.5564)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(69.5564)\ln(2n)]}{(2n)^{0.5}}] \tag{57}$$

= 0.010867804829161603203853104882137222....

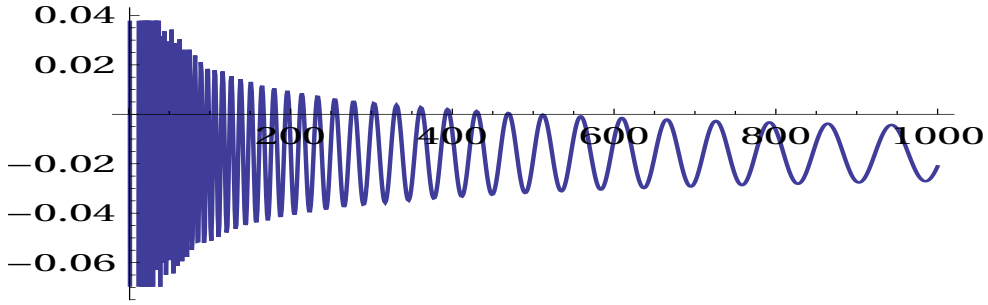


[10000]=0.019979799696832153 9546
[100000]=0.016835915584257163 3910
[1000000]=0.017896333953467926 5197
[10000000]=0.017541720947073988 9066
[100000000]=0.017659517707641313 1778
It does not converge to 0.

(72.0672 -0.01=72.0572)

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0572)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(72.0572)\ln(2n)]}{(2n)^{0.5}}] \tag{58}$$

= -0.021074303355164701436494140152279 6....

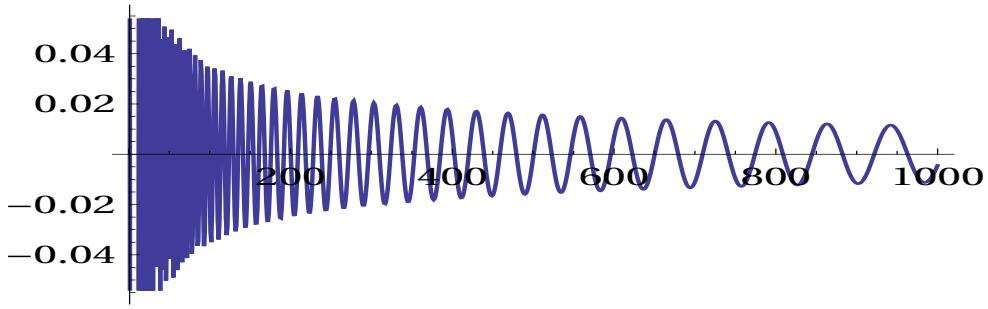


[10000]=-0.012671377532791149034 3
[100000]=-0.016922076005184229219 3
[1000000]=-0.015539767387209819232 7
[10000000]=-0.015842504924397642074 3
[100000000]=-0.015821272960497959753 1
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0672)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(72.0672)\ln(2n)]}{(2n)^{0.5}}] \tag{59}$$

= -0.004433077941905571139525695057394011....

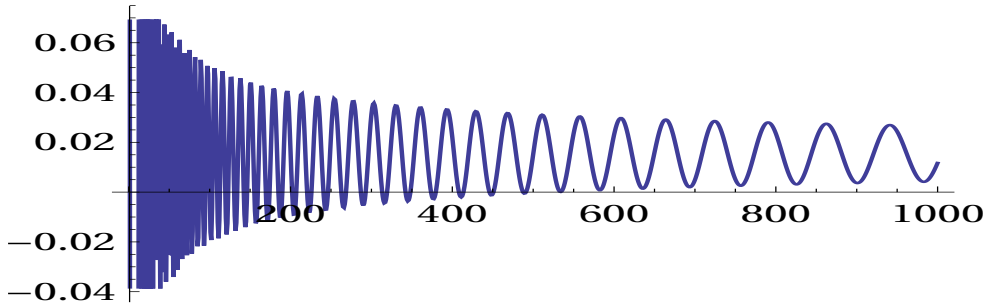


[10000]=0.003029428532427709801 9
[100000]=-0.001051853518954409772 9
[1000000]=0.000367145681441155113 5
[10000000]=0.000016945560383392244 8
[100000000]=0.000062280204802060232 4
converge to 0.

(72.0672 +0.01=72.0772)

$$\sum_{n=1}^{1000}[\frac{\cos[(72.0672)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(72.0672)\ln(2n)]}{(2n)^{0.5}}] \tag{60}$$

= 0.011703636767921699052293328063332 32....

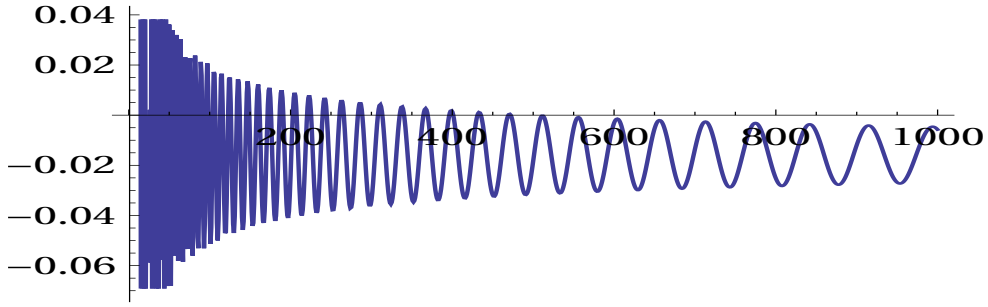


[10000]=0.0181707007646028824432
[100000=0.0143045111219020221194
[1000000]=0.0157372394547144987820
[10000000]=0.0153472886281138462539
[100000000]=0.0154154791762151199136
It does not converge to 0.

(75.7047 -0.01=75.6947)

$$\sum_{n=1}^{1000}[\frac{\cos[(75.6947)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(75.6947)\ln(2n)]}{(2n)^{0.5}}] \tag{61}$$

= -0.005767602040275194888056795583206626735159....

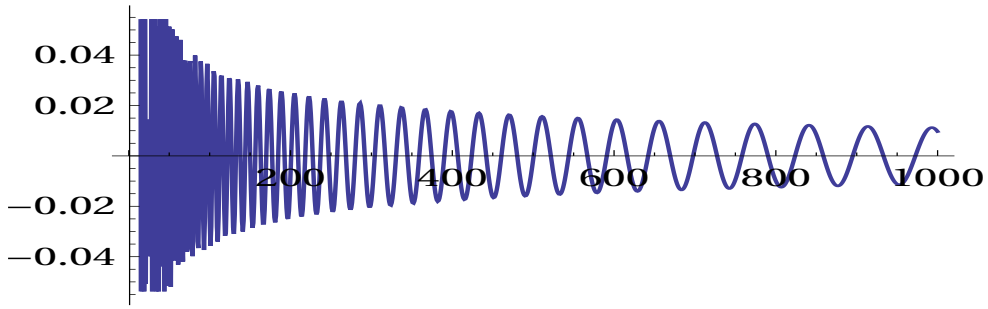


[10000]=-0.0145183117659648756176
[100000]=-0.0168743137361940659380
[1000000]=-0.0158932270594019514620
[10000000]=-0.0156984831255221751745
[100000000]=-0.0158045871196352515076
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(75.7047)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{cos[(75.7047)\ln(2n)]}{(2n)^{0.5}}] \tag{62}$$

= 0.009653628012110042231224261630636 38....

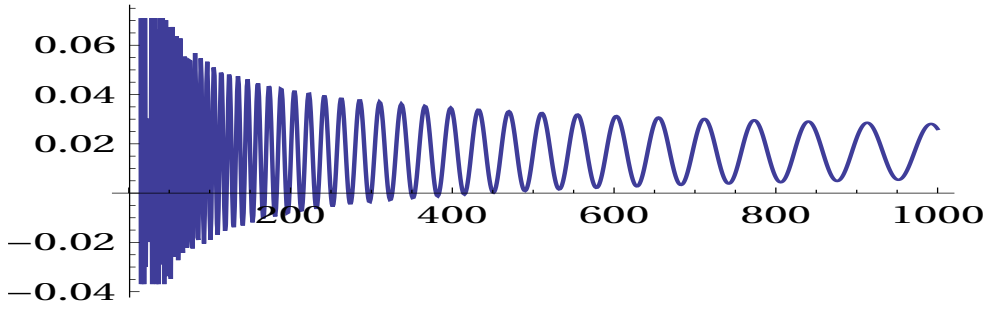


[10000]=0.0016245600108993024473
[100000]=-0.0010015153125604158314
[1000000]=-0.0001182290513657512342
[10000000]=0.0001204084346666212352
[100000000]=0.000025751718977342 7849
converge to 0.

(75.7047 +0.01=75.7147)

$$\sum_{n=1}^{1000}[\frac{\cos[(75.7147)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(75.7147)\ln(2n)]}{(2n)^{0.5}}] \tag{63}$$

= 0.026037579154504191831522494048690 49....

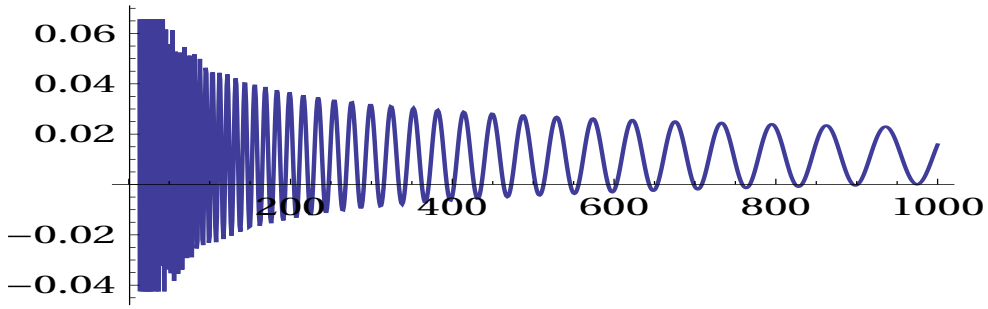


[10000]=0.0187700429043501960946
[100000]=0.0159047949088703503839
[1000000]=0.0166779554338473551267
[10000000]=0.0169547162854766578222
[100000000]=0.0168740888732249530446
It does not converge to 0.

(77.1448 -0.01=77.1348)

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1348)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(77.1348)\ln(2n)]}{(2n)^{0.5}}] \tag{64}$$

= 0.0158374553907442814664728637073412750 0....

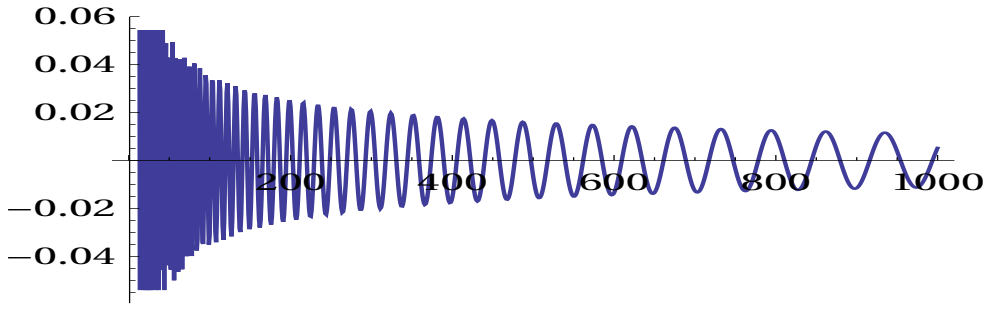


[10000]=0.0145234041256118440177
[100000]=0.0107811168707620391727
[1000000]=0.011151220679815243910 8
[10000000]=0.011500198938312484672 8
[100000000]=0.011439096084972776371 0
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1448)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(77.1448)\ln(2n)]}{(2n)^{0.5}}] \tag{65}$$

= 0.0052300276512721157556571843765 04....

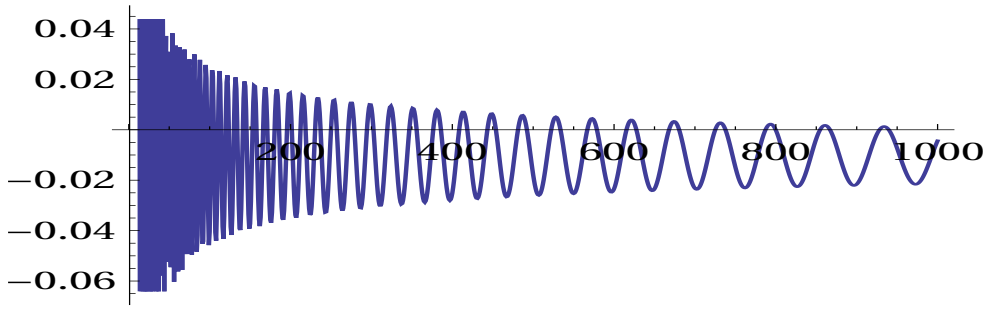


[10000]=0.0029664779953020377519
[100000]=-0.0007006166354271297931
[1000000]=-0.0001870419726466966779
[10000000]=0.0001371403920681105127
[100000000]=0.0000587154729794121019
converge to 0.

(77.1448 +0.01=77.1548)

$$\sum_{n=1}^{1000}[\frac{\cos[(77.1548)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(77.1548)\ln(2n)]}{(2n)^{0.5}}] \tag{66}$$

= -0.00436086098127121124939078745425 57....

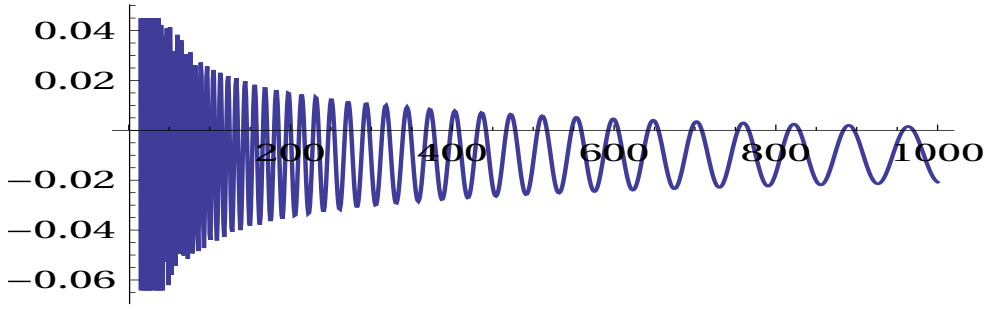


[10000]=-0.0075726021271640304999
[100000]=-0.0111247864798120002505
[1000000]=-0.0104739693260100571320
[10000000]=-0.0101820675996653637468
It does not converge to 0.

(79.3374 -0.01=79.3274)

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3274)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(79.3274)\ln(2n)]}{(2n)^{0.5}}] \tag{67}$$

= -0.02076513152075744354907712109053746....

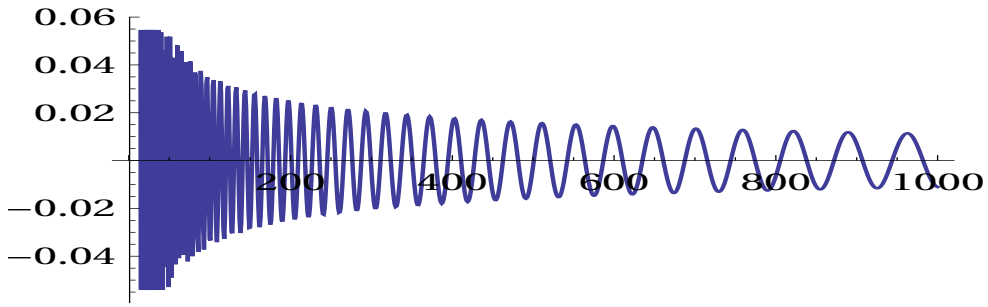


[10000]=0.0081757550311770624957
[100000]=0.0107178805140204780333
[1000000]=0.011344641491091107 8100
[10000000]=0.011439670686156555 9260
[100000000]=0.011429960917647849 4943
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3374)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(79.3374)\ln(2n)]}{(2n)^{0.5}}] \tag{68}$$

= -0.011060118603004843147391183899044 21....

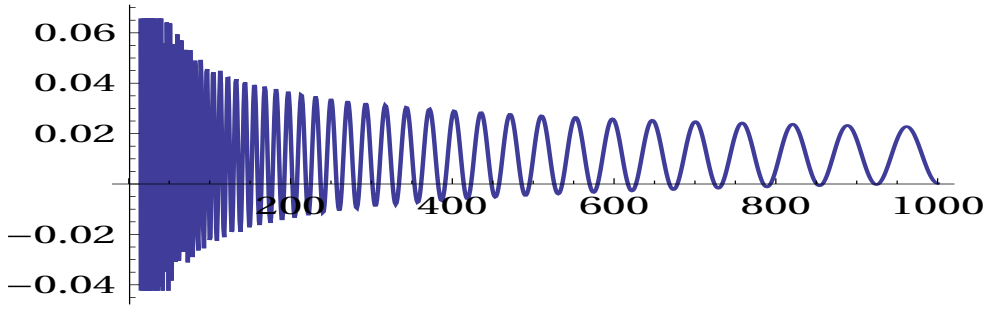


[10000]=-0.0033286483613430535924
[100000]=-0.0007622145135349513156
[1000000]=-0.0000828611800183551403
[10000000]=0.0000436829234382010275
[100000000]=0.0000471368163292867377
converge to 0.

(79.3374 +0.01=79.3474)

$$\sum_{n=1}^{1000}[\frac{\cos[(79.3474)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(79.3474)\ln(2n)]}{(2n)^{0.5}}] \tag{69}$$

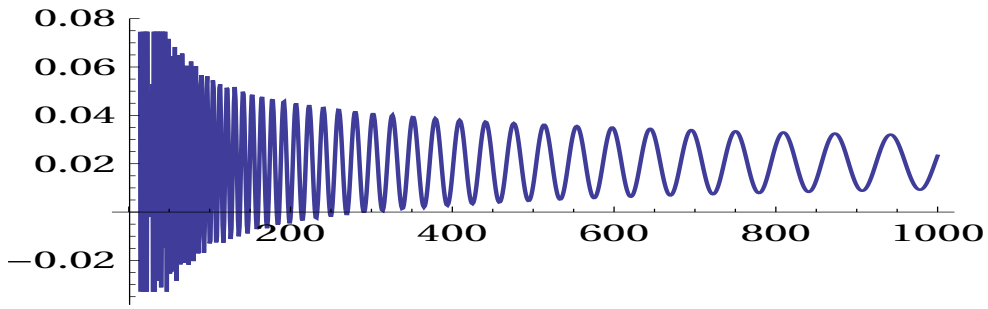
= 0.000239472792792690622654945101468 2763....



[10000]=0.0081757550311770624957
[100000]=0.0107178805140204780333
[1000000]=0.0113446414910911078100
[10000000]=0.0114396706861565559260
[100000000]=0.0114299609176478494943
It does not converge to 0.

$$(82.9104 - 0.01 = 82.9004) \sum_{n=1}^{1000} [\frac{\cos[(82.9004)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(82.9004)\ln(2n)]}{(2n)^{0.5}}] \quad (70)$$

$= 0.023282073861962337559387459755070270....$

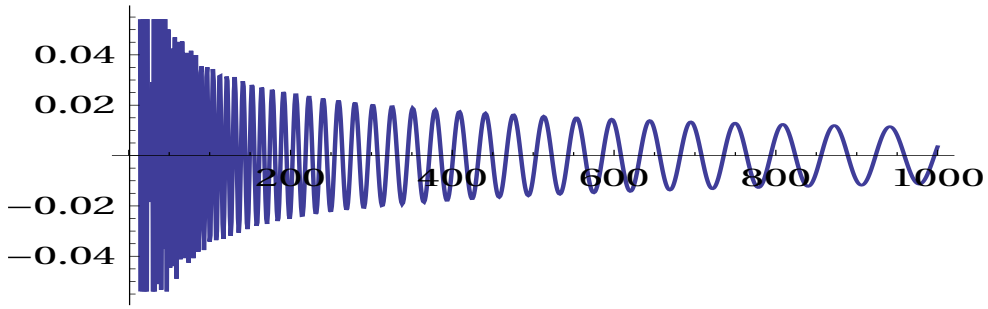


[10000]=0.0222846263592452326074
[100000]=0.0194543229123889487020
[1000000]=0.0208411982389801672677
[10000000]=0.0204842003462149778448
[100000000]=0.0205104126644407684654
It does not converge to 0.

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

$$\sum_{n=1}^{1000} [\frac{\cos[(82.9104)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(82.9104)\ln(2n)]}{(2n)^{0.5}}] \quad (71)$$

$= 0.00353445588698973299308904117790351....$

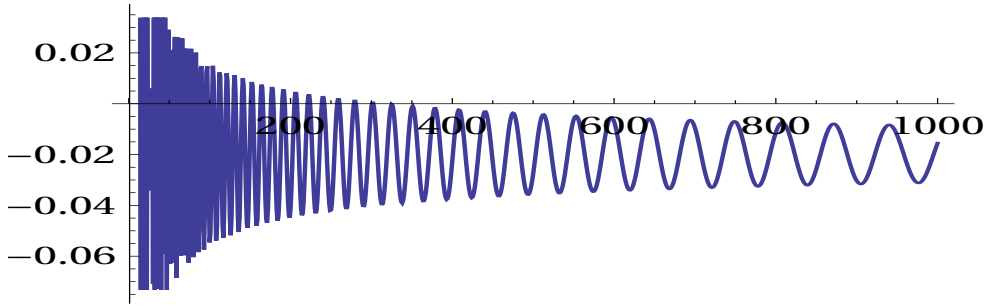


[10000]=0.0014103623601796036642
[100000=-0.0010605598122671972775
[1000000)=0.0002978867961682382442
[10000000]=-0.0000952393762674968021
[100000000]=-0.0000456358162302138902
converge to 0.

(82.9104 +0.01=82.9204)

$$\sum_{n=1}^{1000}[\frac{\cos[(82.9204)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(82.9204)\ln(2n)]}{(2n)^{0.5}}] \tag{72}$$

= -0.01548996349106622583890468134979 56....

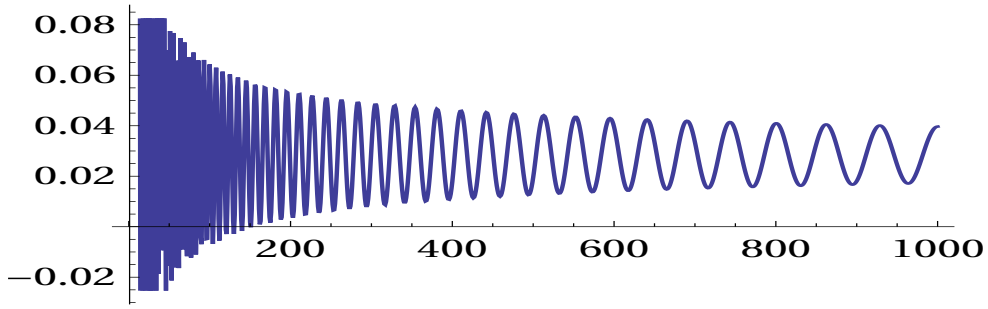


[10000]=-0.0187342688547805988342
[100000=-0.020816403243310518 2507
[1000000]=-0.0195086635481445599960
[10000000]=-0.0199292508559919707978
It does not converge to 0.

(84.7355 -0.01=84.7255)

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7255)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(84.7255)\ln(2n)]}{(2n)^{0.5}}] \tag{73}$$

= 0.039664573391102825695554677466757050 4....

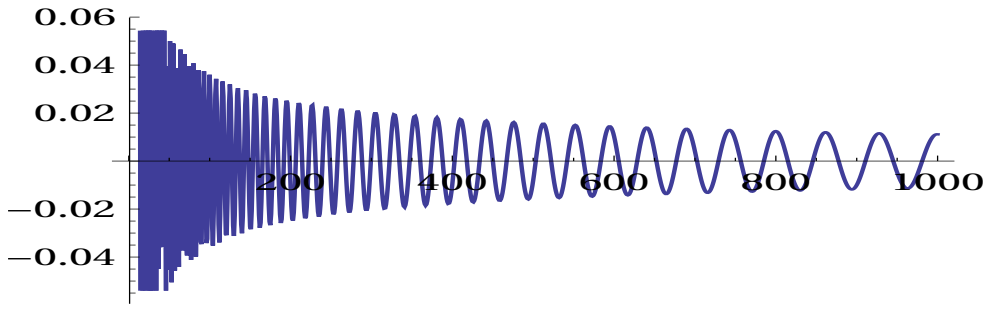


[10000]=0.0318872204225595853866
[100000]=0.0294184557494009089884
[1000000]=0.0287067629290724581070
[10000000]=0.0285249567043578157455
[100000000]=0.0284865943793785082738
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7355)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(84.7355)\ln(2n)]}{(2n)^{0.5}}] \tag{74}$$

= 0.011141051602656429937878753987726 57....

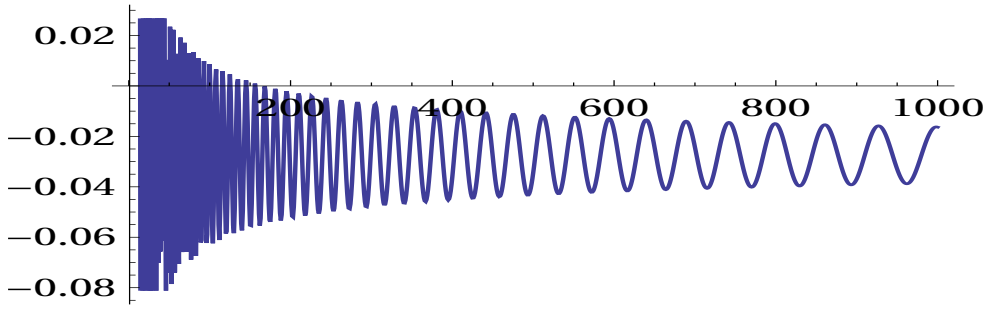


[10000]=0.0032716683727916544625
[100000]=0.0008326779381843932206
[1000000]=0.000160670119015738 5807
[10000000=0.0000029354452761063156
[100000000]=-0.000024166465809795 1197
converge to 0.

(84.7355 +0.01=84.7455)

$$\sum_{n=1}^{1000}[\frac{\cos[(84.7455)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(84.7455)\ln(2n)]}{(2n)^{0.5}}] \tag{75}$$

= -0.016345071972293328324883627536856 14....

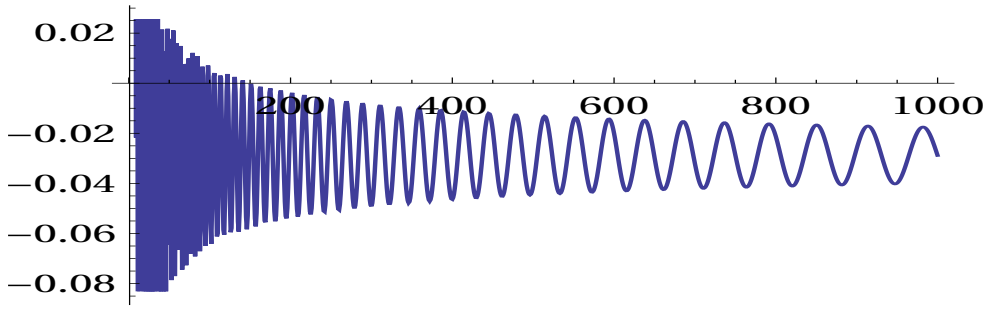


[10000]=-0.024274287372164620 5964
[100000]=-0.026663931648521023 4320
[1000000]=-0.027287360502406897 4223
[10000000]=-0.027417871156953259 3262
[100000000]=-0.027432911158767094 0176
It does not converge to 0.

(87.4253 -0.01=87.4153)

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4153)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(87.4153)\ln(2n)]}{(2n)^{0.5}}] \tag{76}$$

= -0.028868238867705496470309995403830767....

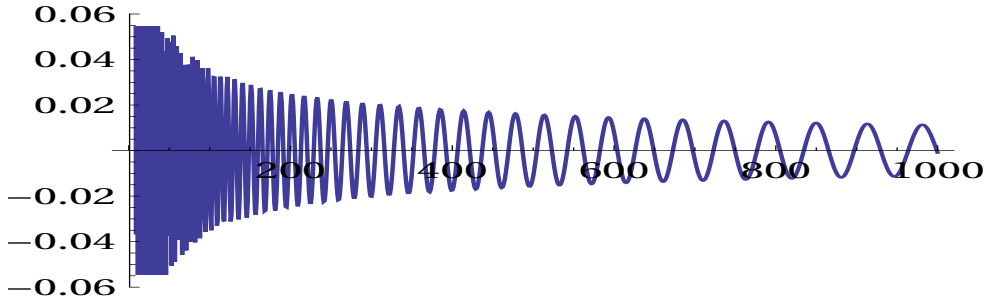


[10000]=-0.0294905492735248811464
[100000]=-0.0292174614920240223459
[1000000]=-0.028967275802245912724 7
[10000000]=-0.028839534921585429500 0
[100000000]=-0.028785678858794714468 6
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4253)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(87.4253)\ln(2n)]}{(2n)^{0.5}}] \tag{77}$$

= -0.000888581487385396828231414782262693 7....

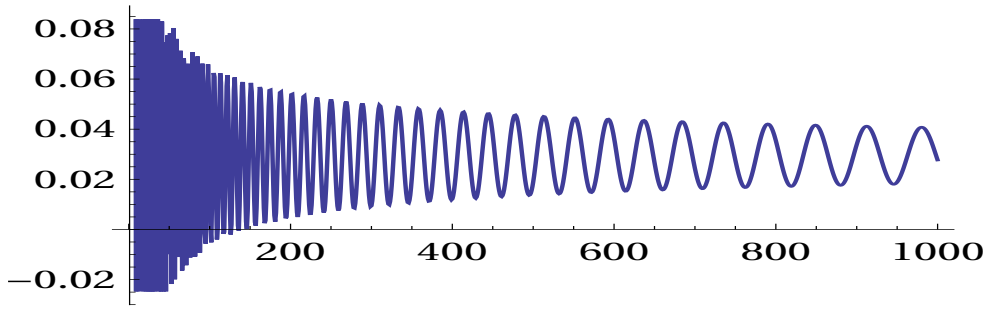


[10000]= -0.0010004497393000491741
[100000]= -0.0005095242227744967893
[1000000]= -0.0001774559399960536792
[10000000]= -0.0000220674631672737237
converge to 0.

(87.4253 +0.01=87.4353)

$$\sum_{n=1}^{1000}[\frac{\cos[(87.4353)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(87.4353)\ln(2n)]}{(2n)^{0.5}}] \tag{78}$$

= 0.027704474845898808913038184191403 28....

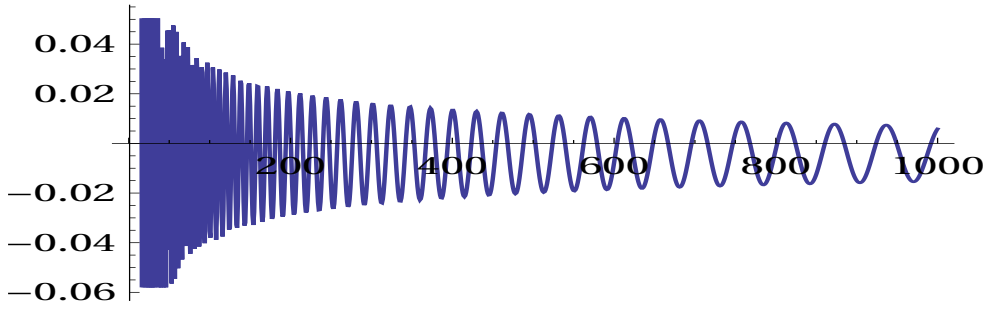


[10000]=0.0281080194080228738807
[100000]=0.0288149360292453242394
[1000000]=0.0292254876163264634692
[10000000]=0.0294059482673889455162
[100000000]=0.029475049671367 3745819
It does not converge to 0.

(88.8091 -0.01=88.7991)

$$\sum_{n=1}^{1000}[\frac{\cos[(88.7991)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(88.7991)\ln(2n)]}{(2n)^{0.5}}] \tag{79}$$

= 0.005852530275833069866886810620228 43....

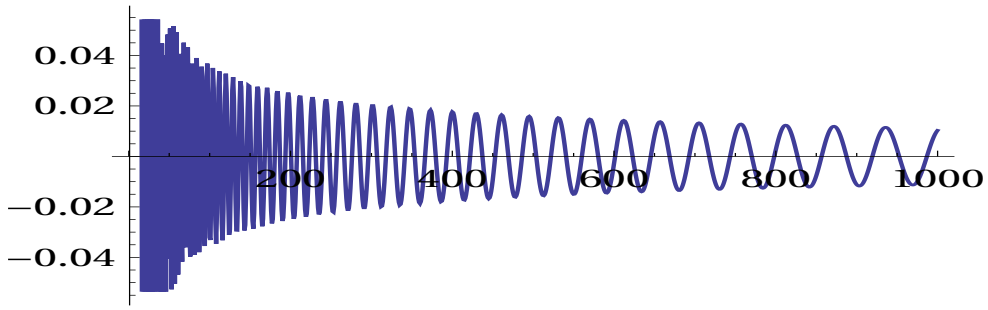


[10000]=-0.0075802629627276293250
[100000]=-0.0030150819828270061622
[1000000]=-0.0044697337538711374300
[10000000]=-0.0040379390189374331568
[100000000]=-0.0041561060838526033695
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(88.8091)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(88.8091)\ln(2n)]}{(2n)^{0.5}}] \tag{80}$$

= 0.010332897078108266898011530774962 8....

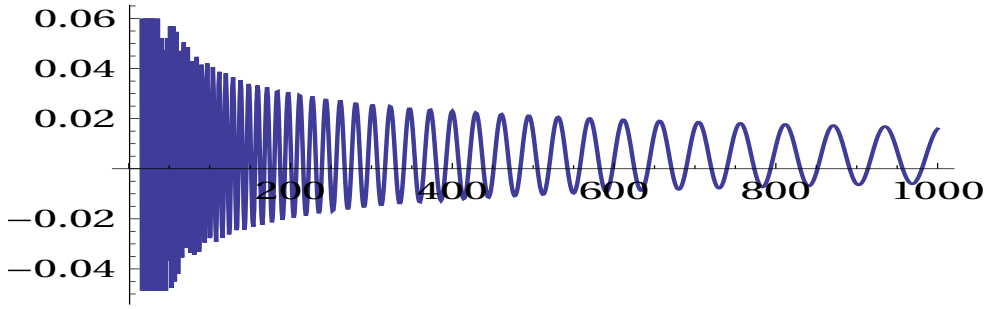


[10000]= -0.0035136809338557582760
[100000]= 0.0010982711272328137507
[1000000]= -0.0003239705664555260706
[10000000]= 0.0000776637060144497345
[100000000]= -0.0000237365082598473473
converge to 0.

(88.8091 +0.01=88.8191)

$$\sum_{n=1}^{1000}[\frac{\cos[(88.8191)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(88.8191)\ln(2n)]}{(2n)^{0.5}}] \tag{81}$$

= 0.015934932837522983487256100774298 99....

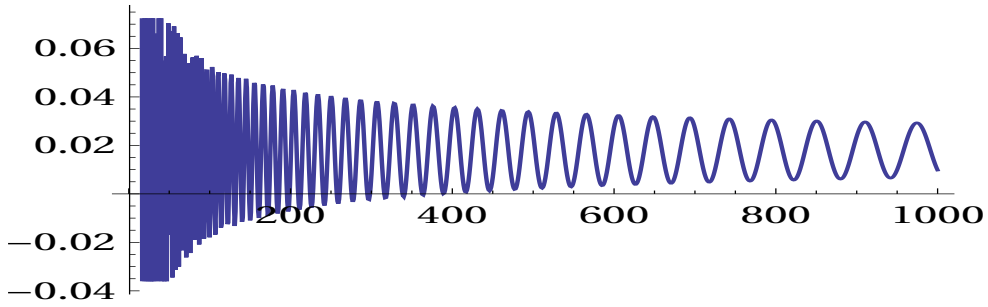


[10000]=0.0017686547806949515400
[100000]=0.0063765745429264107311
[1000000]=0.0050098608074647396973
[10000000]=0.0053722992267073851544
[100000000]=0.0052906766583897986422
It does not converge to 0.

(92.4919 -0.01=92.4819)

$$\sum_{n=1}^{1000}[\frac{\cos[(92.4819)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(92.4819)\ln(2n)]}{(2n)^{0.5}}] \tag{82}$$

= 0.009801967430046798170297271086259106 0....

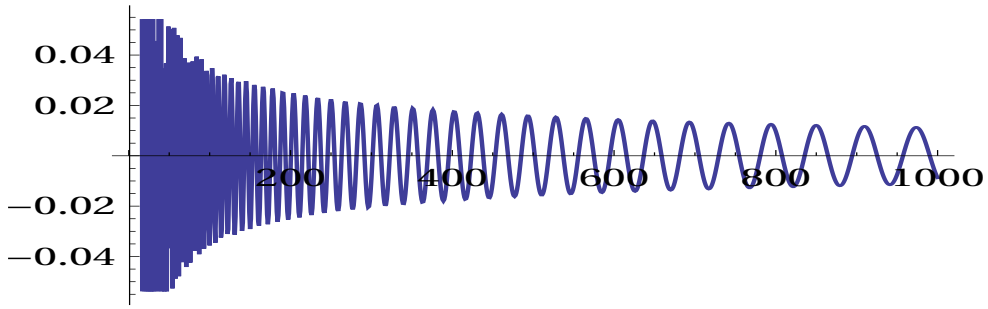


[10000]=0.0175727899371627450942
[100000]=0.0185962823074991082106
[1000000]=0.0183356254448237623866
[10000000]=0.0181058644958792085145
[100000000]=0.0180190368161497645183
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(92.4919)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(92.4919)\ln(2n)]}{(2n)^{0.5}}] \tag{83}$$

0.008547365010250874501406981302547....

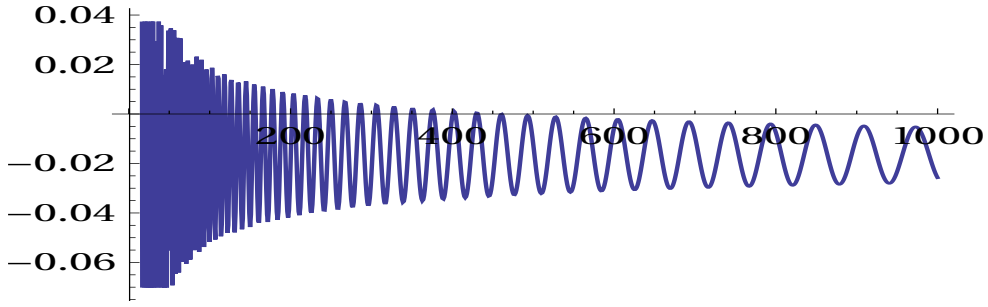


[10000]= -0.000774307696825416 9329
[100000]= 0.000474426204330751 3350
[1000000]= 0.000313430822750708 2872
[10000000]= 0.000108645312223227 3349
[100000000]= 0.000022275923831711 0844
converge to 0.

(92.4919 +0.01=92.5019)

$$\sum_{n=1}^{1000}[\frac{\cos[(92.5019)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(92.5019)\ln(2n)]}{(2n)^{0.5}}] \tag{84}$$

= -0.025769922882814007897222100511552408....

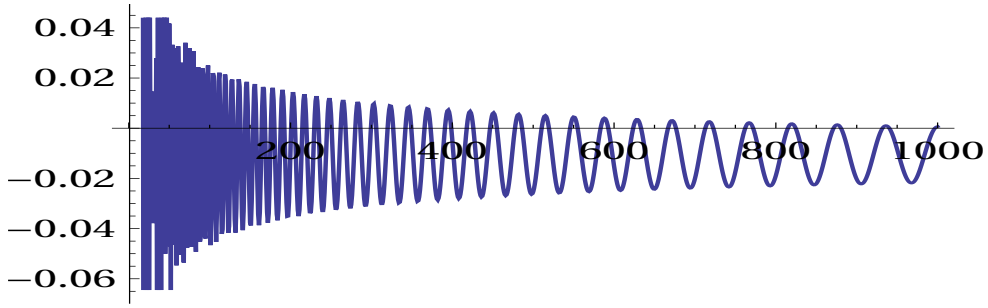


[10000]=-0.0176244246733206419431
[100000]=-0.016165103431012968 4823
[1000000]=-0.0162259716204928086669
[10000000]=-0.016402267831901802 5417
[100000000]=-0.016485937352745245 3264
It does not converge to 0.

(The axis is 94.6513 -0.01=94.6413)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6413)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(94.6413)\ln(2n)]}{(2n)^{0.5}}] \tag{85}$$

= 0.000660819168786540468218909859131396....

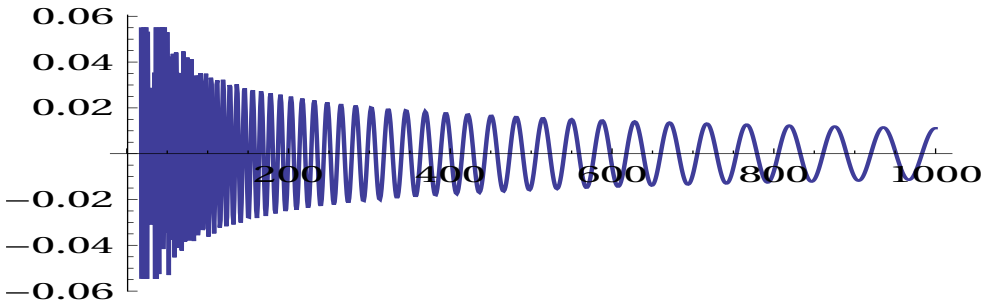


[10000]=-0.012156978521417942 3849
[100000)=-0.011200089459229784 2861
[1000000]=-0.010168271865241183 8156
[10000000]=-0.010531384694230691 5677
[100000000]=-0.010540683641777511 6865
It does not converge to 0.

(94.6513 is nontrivial zero value as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6513)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(94.6513)\ln(2n)]}{(2n)^{0.5}}] \tag{86}$$

= 0.011127005476330245290336596568709....

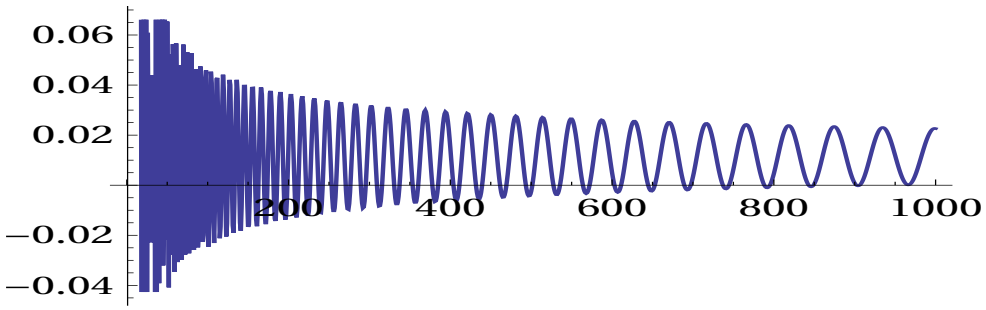


[10000]= -0.0013765254567662944633
[100000]= -0.0008392212363509909913
[1000000]= 0.0002788508501267524431
[10000000]= -0.0000497038044914837129
[100000000]=-0.0000309521760194209424
converge to 0.

(4.6513 +0.01=94.6613)

$$\sum_{n=1}^{1000}[\frac{\cos[(94.6613)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(94.6613)\ln(2n)]}{(2n)^{0.5}}] \tag{87}$$

= 0.022617735064078966033699135792529 5....

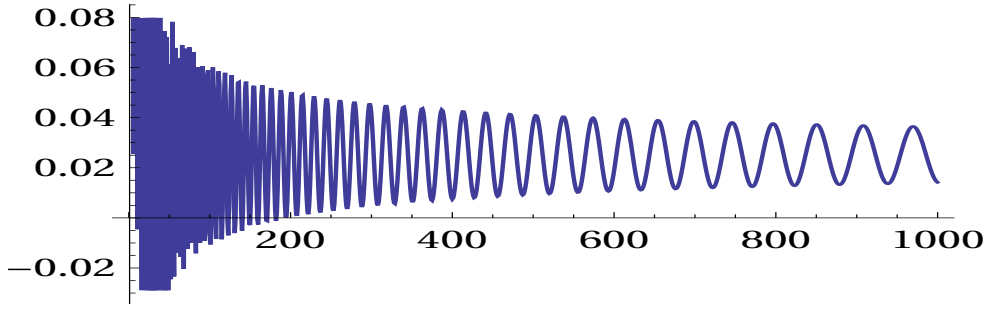


[10000]=0.0105060236444533584843
[100000]=0.0106224946041767430438
[1000000]=0.0118081762350637931719
[10000000]=0.0115210923270080024122
[100000000]=0.0114690425146854717980
not converge

(95.8706 -0.01=95.8606)

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8606)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(95.8606)\ln(2n)]}{(2n)^{0.5}}] \tag{88}$$

= 0.014172631470856970104209633285257 6....

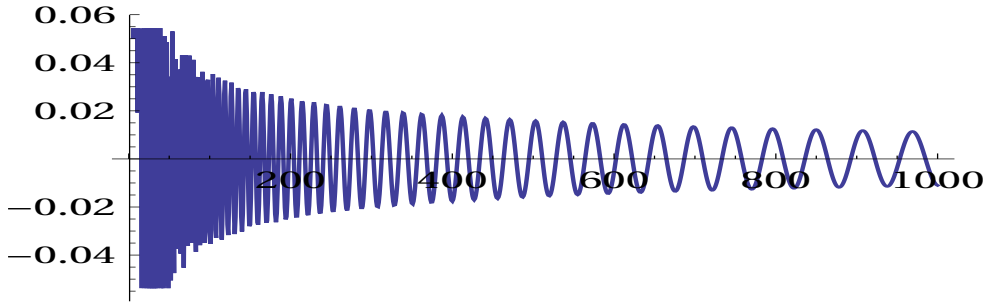


[10000]=0.0222087165335923750198
[100000]=0.0249554363954456182029
[1000000]=0.0253503637991626534776
[10000000]=0.0252465303669947294107
[100000000]=0.0251620072925927106000
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8706)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(95.8706)\ln(2n)]}{(2n)^{0.5}}] \tag{89}$$

= -0.011014033824321856717273464621484....

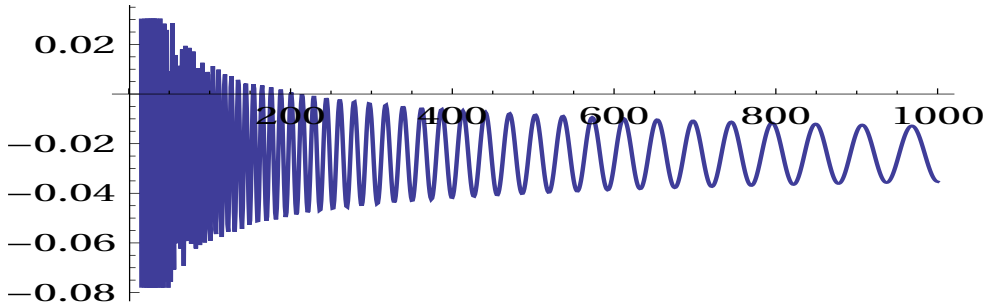


[10000]= -0.0026317155444329789170
[100000]= 0.0000402283252831486376
[1000000]= 0.0003377731160845019081
[10000000]= 0.0001959498109393056735
[100000000]= 0.0001062174084937451399
converge to 0.

(95.8706 +0.01=95.8806)

$$\sum_{n=1}^{1000}[\frac{\cos[(95.8806)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(95.8806)\ln(2n)]}{(2n)^{0.5}}] \tag{90}$$

= -0.035334983578964980359492918272530 0....

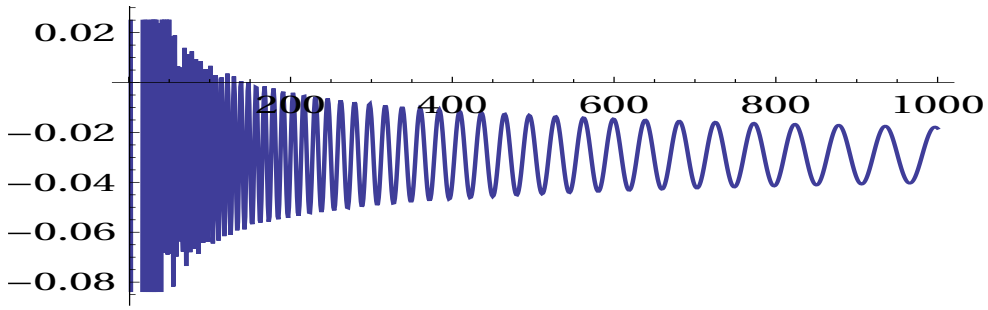


[10000]=-0.026643907435824634721 8
[100000]=-0.024072700062490126615 7
[1000000]=-0.023878519378829655972 5
[10000000]=-0.024056153576930444648 6
[100000000]=-0.024148744806166824034 0
It does not converge to 0.

(98.8312 -0.01=98.8212)

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8212)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(98.8212)\ln(2n)]}{(2n)^{0.5}}] \tag{91}$$

= -0.018367164108921715453400728258162 05....

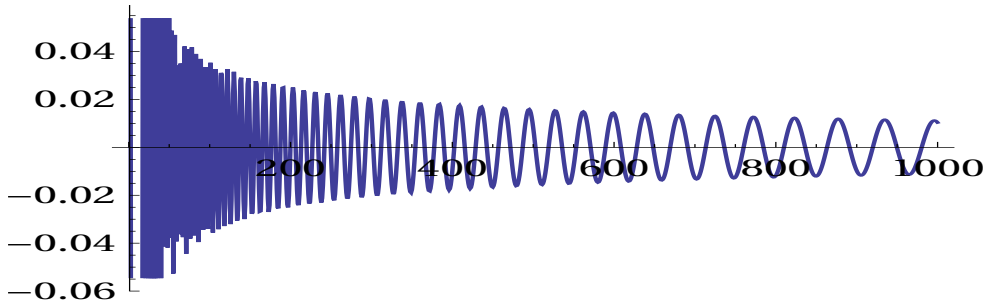


[10000]=-0.029251895550875175317 0
[100000]=-0.030106540742240860131 2
[1000000]=-0.029130683594468499697 5
[10000000]=-0.028908928457808028000 8
[100000000]=-0.028975731146257042297 7
It does not converge to 0.

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

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8312)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(98.8312)\ln(2n)]}{(2n)^{0.5}}] \tag{92}$$

= 0.010357636655826298610027886626709537357 74....

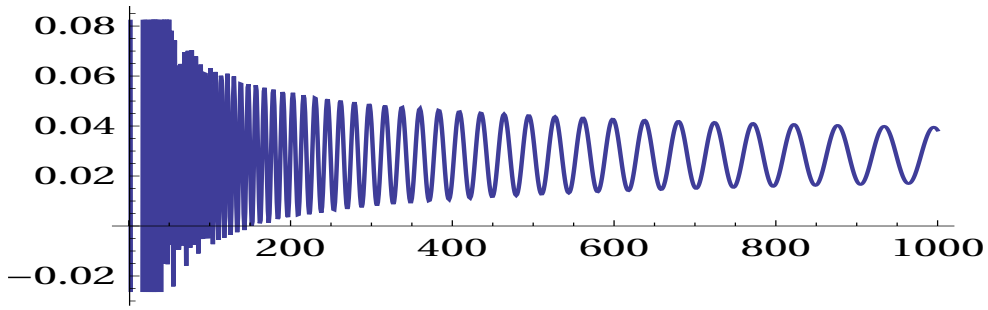


[10000]=-0.0005812758455654100289
[100000]=-0.0011009283190770852157
[1000000]=-0.0000636630925465695460
[10000000]=0.0001183386232722523221
[100000000]=0.0000372821209876205499
converge to 0.

(98.8312 +0.01=98.8412)

$$\sum_{n=1}^{1000}[\frac{\cos[(98.8412)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(98.8412)\ln(2n)]}{(2n)^{0.5}}] \tag{93}$$

= 0.038336463236695226503961208870407837....

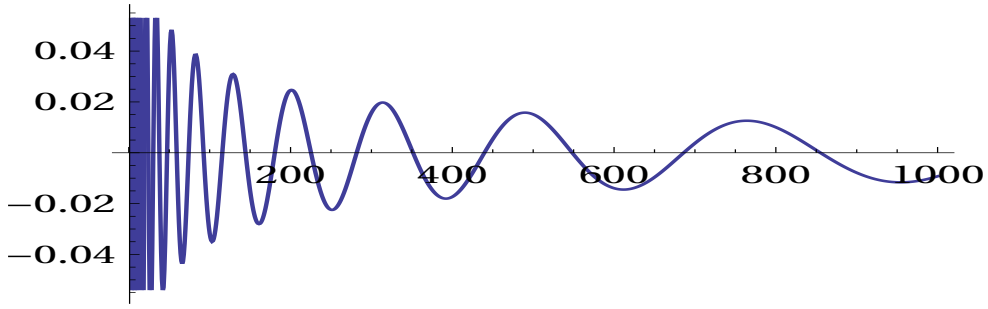


[10000]=0.0274089479801120014524
[100000]=0.0272350581913820416480
[1000000]=0.0283187887816494579529
[10000000]=0.0284564818222056009622
[100000000]=0.0283632866205242029078
It does not converge to 0.

Chapter 2 (The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{cos[(14.1347)\ln(2n-1)}{(2n-1)^{0.4999}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.4999}}] \tag{94}$$

= -0.009257840509601691345415572118652270020349....

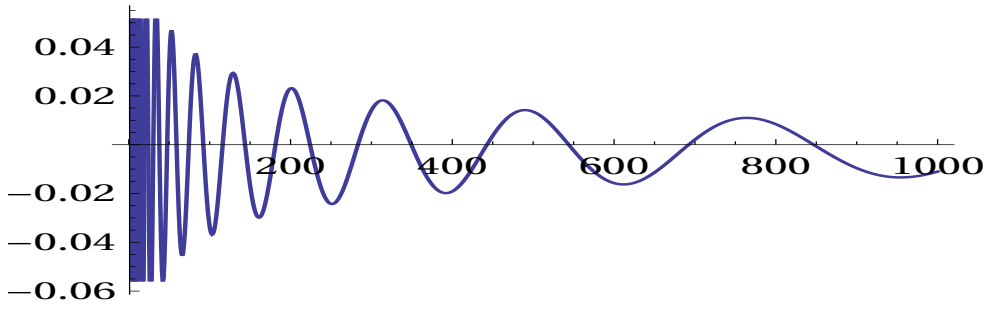


[10000] =0.000450798747349079624 2
[100000] =0.000891425953982662991 0
[1000000] =0.000036956041650341504 2
[10000000] =-0.000237664094981320124 8
It does not converge to 0.

(The axis is 0.5 -0.001)

$$\sum_{n=1}^{1000}[\frac{cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.499}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.499}}] \tag{95}$$

= -0.011012896628270076268406675045803264708 03....

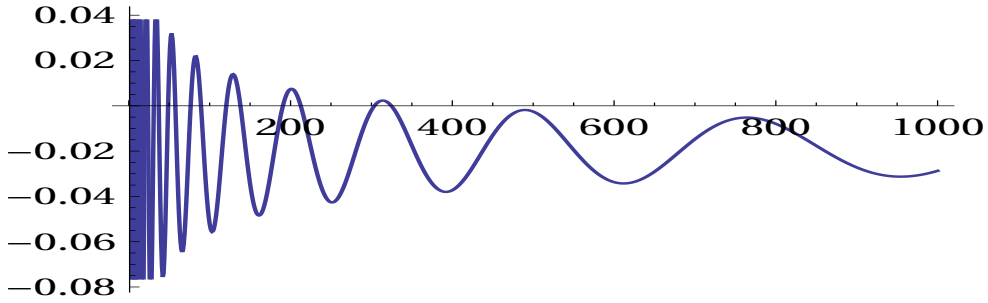


[10000] =-0.001236272491363781325 7
[100000] =-0.000789435193874906586 7
[1000000] =-0.001652865887360664221 4
[10000000] =-0.001931193941346099479 7
It does not converge to 0.

(The axis is 0.5 -0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.49}} - \frac{\cos[14.1347\ln(2n)]}{(2n)^{0.49}}] \tag{96}$$

= -0.0287246146425618261....

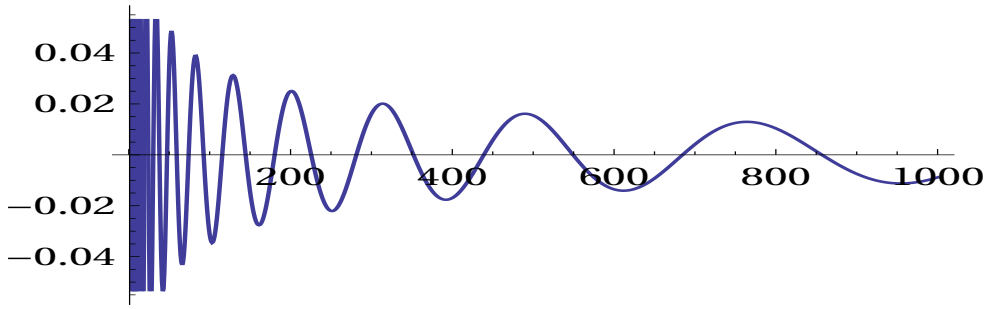


[10000]= -0.0182412463962976847953
[100000]= -0.017727705373692032 0315
[1000000]= -0.018686000956547373 7803
[10000000]= -0.019004287017689417 5549
[100000000]=-0.018991751713097970 7218
It does not converge to 0.

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[14.1347\ln(2n)]}{(2n)^{0.5}}] \tag{97}$$

-0.00906301367133582151....

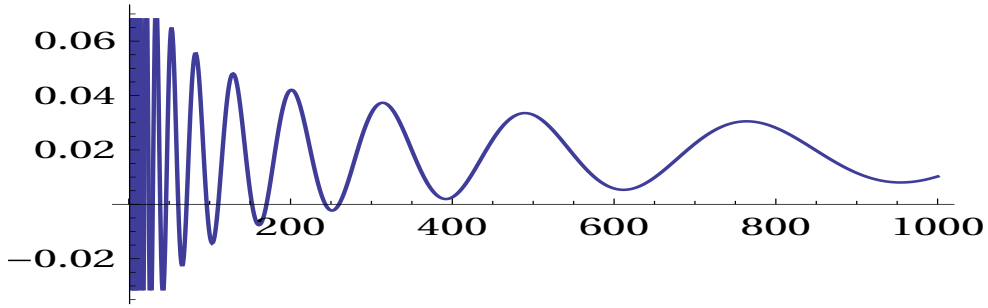


[10000]=0.0006381011115495365026
[100000]=0.0010780432416684295090
[1000000)=0.0002245632899122298001
[10000000]=-0.0000496479275200912434
[100000000]=-0.0000382288508812898928
converge to 0.

(The axis is 0.5 +0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.51}} - \frac{\cos[14.1347\ln(2n)]}{(2n)^{0.51}}] \tag{98}$$

= 0.010240082649027873 25....

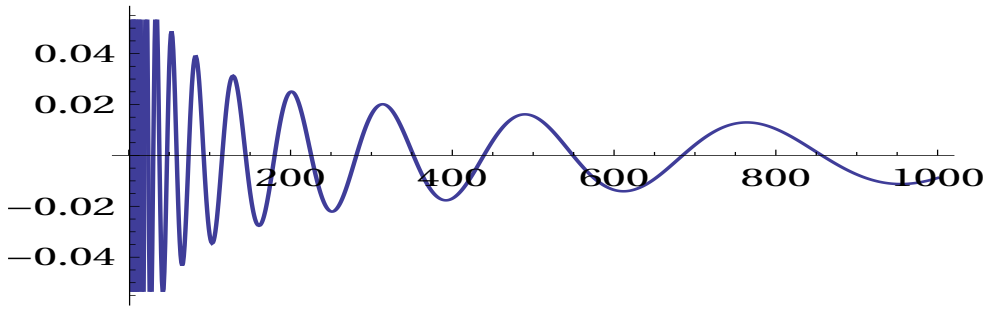


[10000]=0.0192176082247373404555
[100000]=0.0195937840748259088641
[1000000]=0.0188337913412248876555
[10000000]=0.0185975339572469408611
[100000000]=0.0186078662584906844024
It does not converge to 0.

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(14.1347)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(14.1347)\ln(2n)]}{(2n)^{0.5001}}] \tag{99}$$

= -0.008868222680406964769889406332068608994503

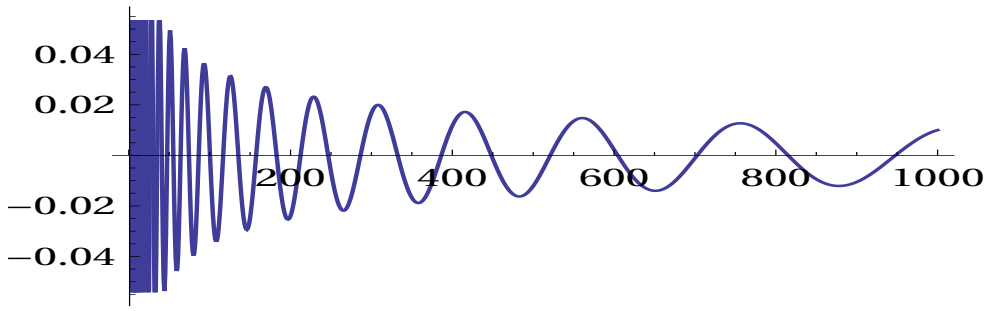


[10000] =0.000825373491803603 8232
[100000] =0.001264631527182712 1996
[1000000] =0.000412140404321286 5422
[10000000] =0.000138337495139104 9966
[100000000] =0.000149745516963495 5138
It does not converge to 0.

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.4999}}] \tag{100}$$

= 0.010001932093239106167194820246006817970 53

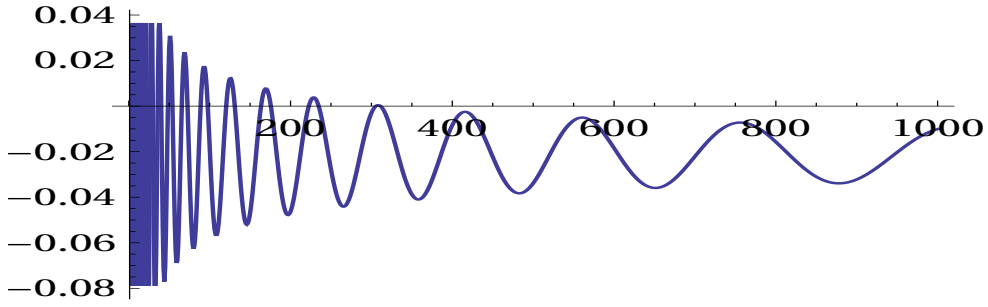


[10000]= -0.0025130531442483245580
[100000]= -0.0007592596129060642015
[1000000]= 0.0001734116036285227871
[10000000]= -0.0001707549672368732893
[100000000]= -0.0002018563265390039933
It does not converge to 0.

(The axis is 0.5 -0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.49}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.49}}] \tag{101}$$

= -0.010077623957692851438

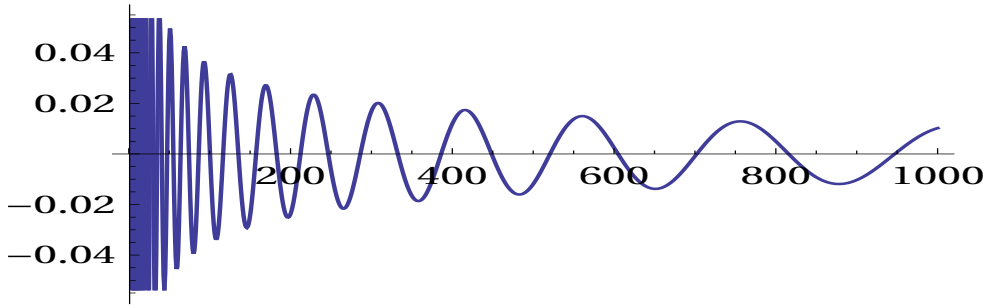


[10000]=-0.0236290071420571581862
[100000]=-0.0217095847284566982605
[1000000]=-0.0206482298290876220559
[10000000]=-0.0210456267984390245351
[100000000]=-0.0210832778695941719382
It does not converge to 0.

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.5}}] \tag{102}$$

= 0.010203050972979707

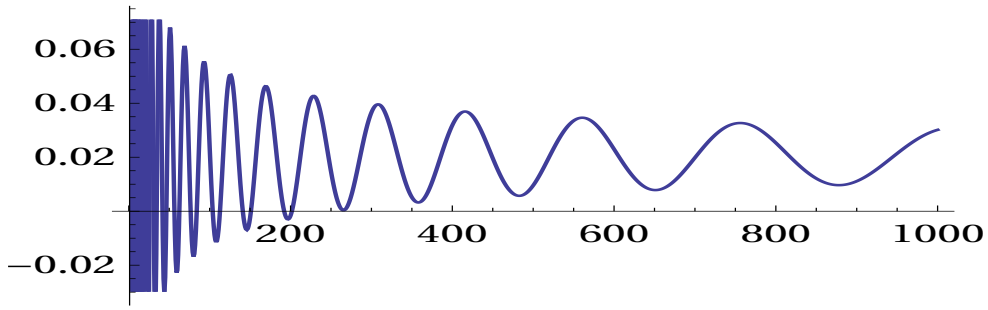


[10000]=-0.0023018856406172511289
[100000]=-0.000549692165757362108 7
[1000000]=0.0003817627764431225329
[10000000]=0.0000380957809653702473
[100000000]=0.000007054409295744287 1
converge to 0.

(The axis is 0.5 +0.01)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.51}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.51}}] \tag{103}$$

= 0.0301437250660519783

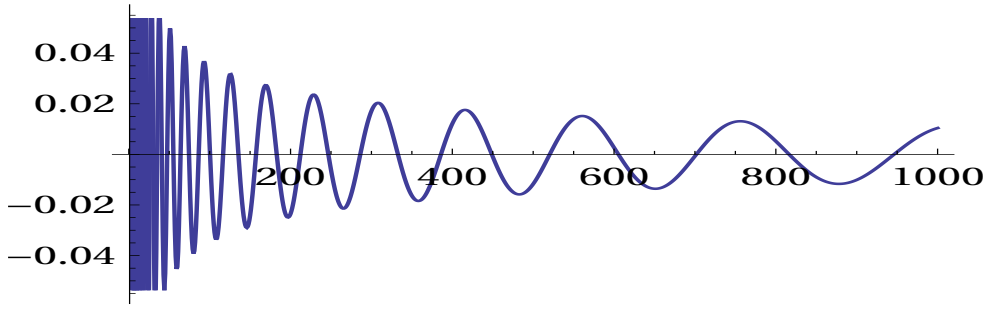


[10000]=0.0186034964827524601505
[100000)=0.0202026487431074264212
[1000000]=0.0210202028664549234183
[10000000]=0.0207230001134234807780
[100000000]=0.0206974093289953205155
It does not converge to 0.

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.5001}}] \tag{104}$$

= 0.010404135850931615429481715273446838332 00

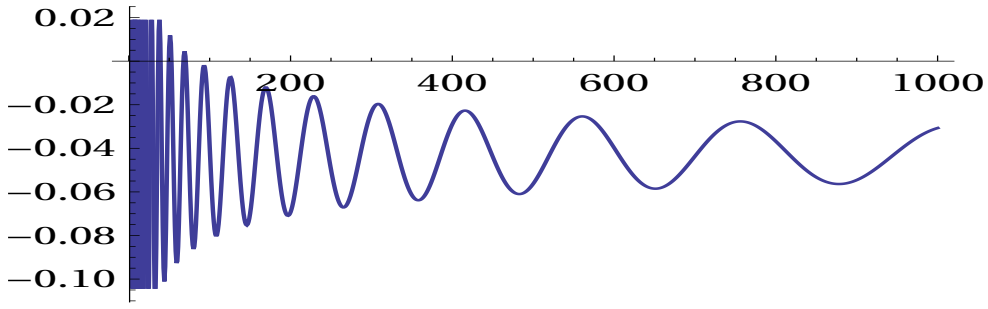


[10000]= -0.0020907603079233774354
[100000]= -0.0003401654715591180544
[1000000]= 0.0005900747938683002011
[10000000]= 0.0002469066484824651792
[100000000]= 0.0002159251488904244615
It does not converge to 0.

(The axis is 0.5 -0.02)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.48}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.48}}] \tag{105}$$

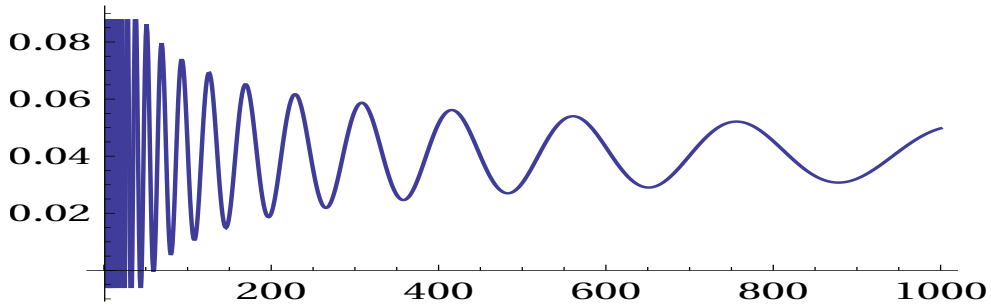
= -0.030701112671694936696152383369363401348 03



(The axis is 0.5 +0.02)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.52}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.52}}] \tag{106}$$

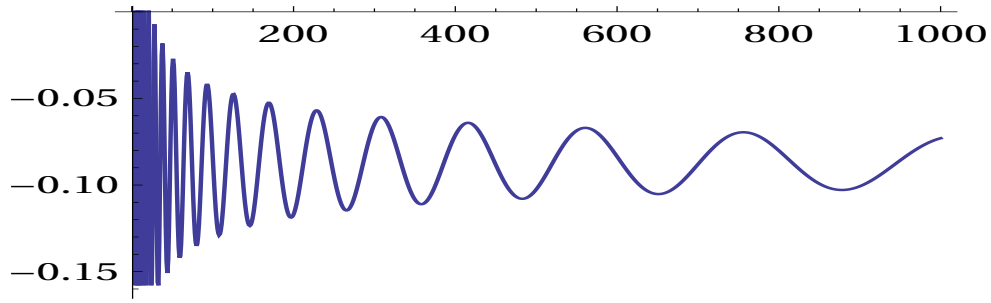
= 0.010404135850931615429481715273446838332 00



(The axis is 0.5 -0.04)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.46}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.46}}] \tag{107}$$

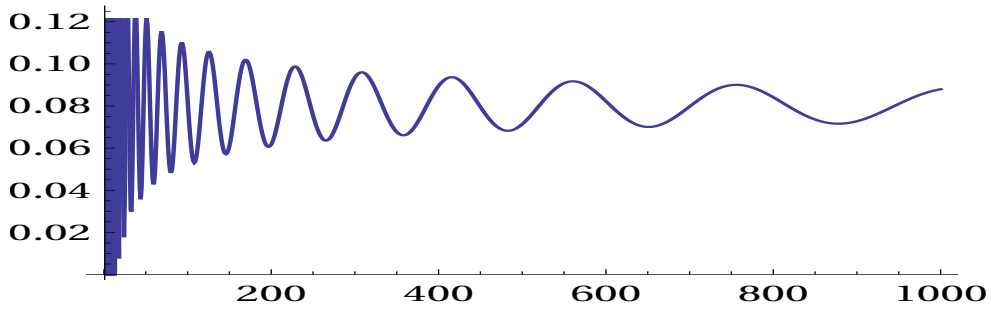
= -0.072986610593811964972041170453501037097 76



(The axis is 0.5 +0.04)

$$\sum_{n=1}^{1000}[\frac{\cos[(21.022)\ln(2n-1)]}{(2n-1)^{0.54}} - \frac{\cos[(21.022)\ln(2n)]}{(2n)^{0.54}}] \tag{108}$$

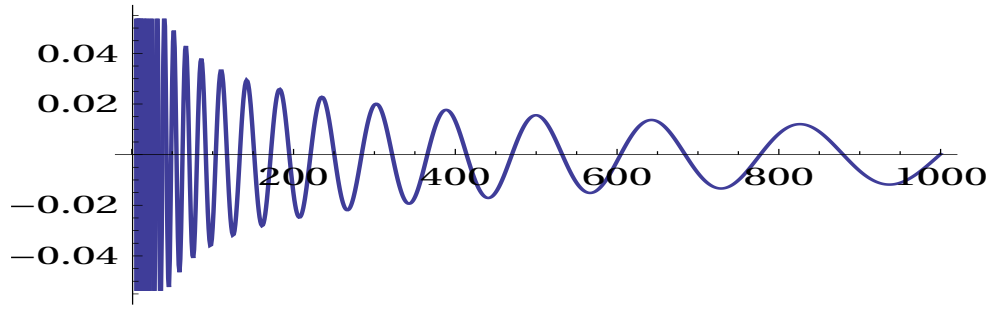
$= 0.087956811873280220675736861131693838407802$



(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.4999}}] \tag{109}$$

$= 0.000234068395123175353021374176941021903126 3$

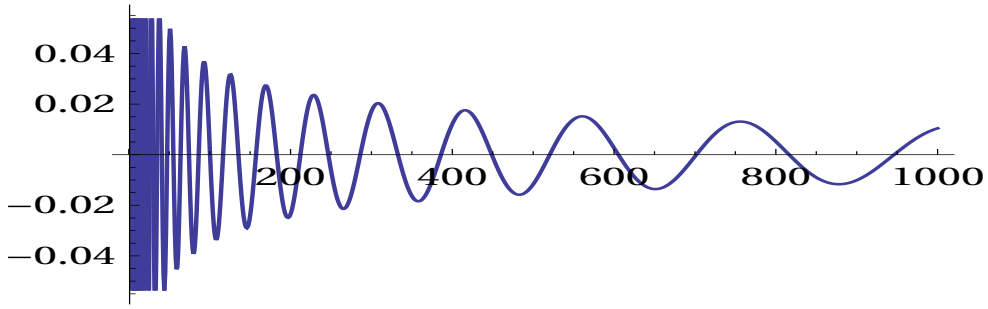


[10000]= 0.0028566554290930883629
[100000]= 0.0006906044201284139818
[1000000]= -0.0002709625732176824389
[10000000]= -0.0003618649905174442603
[100000000]=-0.0002947302460572199471
It does not converge to 0.

(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5}}] \tag{110}$$

= 0.00041632941791503259439535812581429794331 6

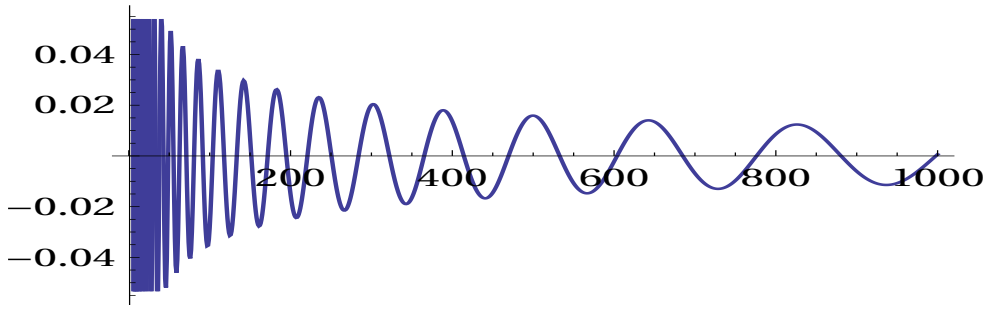


[10000]= 0.003036205841903256031 5
[100000]= 0.000872079323003387271 4
[1000000]= -0.000088313128009189572 0
[10000000]= -0.000179061293331828931 8
[100000000]=-0.000112032291282707210 7
converge to 0.

(The axis is 0.5 +0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5001}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5001}}] \tag{111}$$

= 0.00059855447839542069707461928038644141976 69

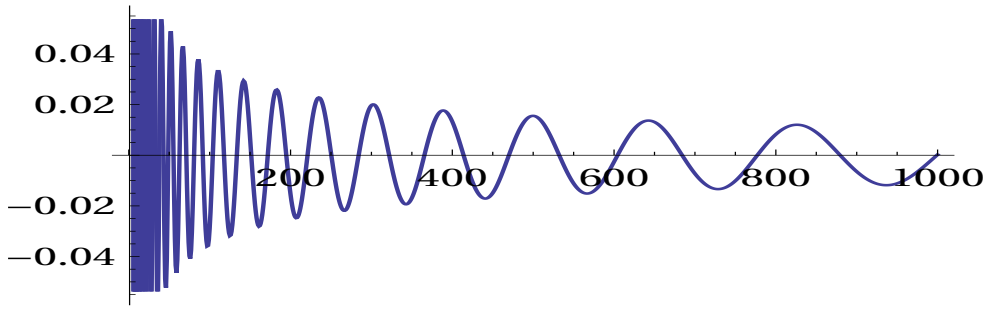


[10000]= 0.003215723062614568236 7
[100000]= 0.001053519396682899142 1
[1000000]= 0.000094300052958372078 0
[10000000]= 0.000003705878249452701 6
[100000000]=0.000070629302091781092 2
not converge

(The axis is 0.5 -0.0001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.4999}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.4999}}] \tag{112}$$

$= 0.000234068395123175353021374176941021903126 3$



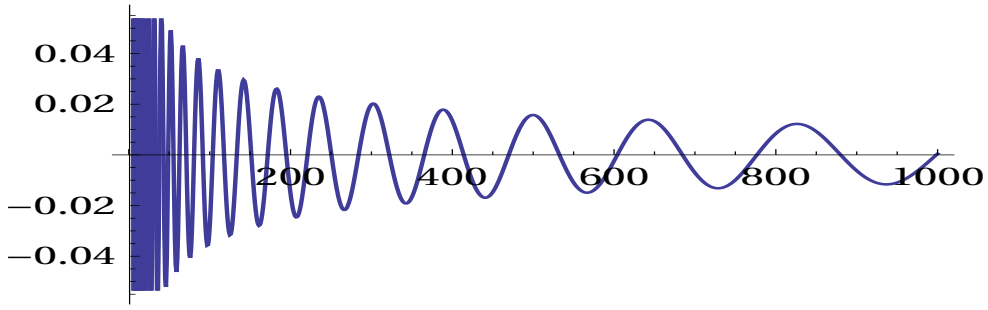
[10000]= 0.0028566554290930883629
[100000]= 0.000690604420128413981 8
[1000000]= -0.000270962573217682438 9
[10000000]= -0.000361864990517444260 3
[100000000]= -0.000294730246057219947 1
It does not converge to 0.

$$(Theaxisis0.5-0.00001)\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.49999}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.49999}}] \tag{113}$$

=0.0018591039275267368103 [100000]=0.00013185368352906844 20 [1000000]=-0.0001093112623126697
[10000000]=-0.000074545346792180162 7 [100000000]=-0.000030503473664728271 7
(The axis is 0.5 as it is.)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.5}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.5}}] \tag{114}$$

= 0.000598554478395420697074619280386441419766 9



[10000]= 0.0030362058419032560315
[100000]= 0.0008720793230033872714
[1000000]= -0.0000883131280091895720
[10000000]= -0.0001790612933318289318
[100000000]=-0.0001120322291282707210 7
converge

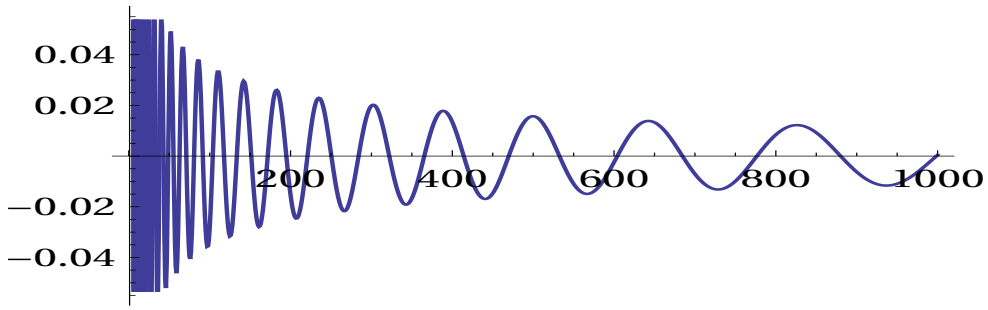
(The axis is 0.5 +0.00001)

$$\sum_{n=1}^{1000}[\frac{\cos[(25.0108)\ln(2n-1)]}{(2n-1)^{0.50001}} - \frac{\cos[(25.0108)\ln(2n)]}{(2n)^{0.50001}}] = [10000] = 0.0018562484543768438885[100000] \tag{115}$$

(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

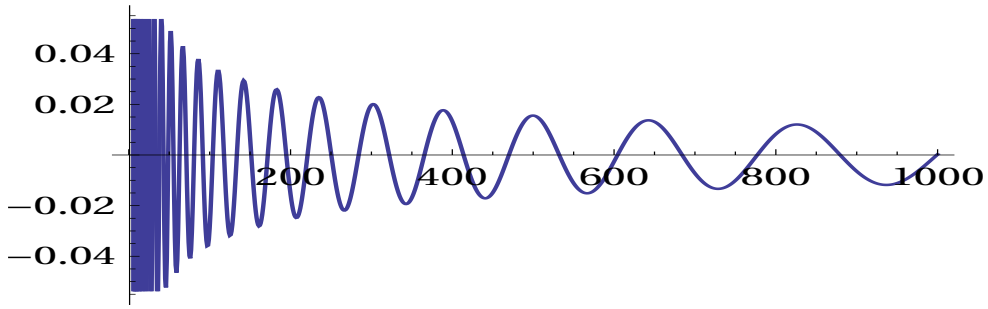


[10000]= 0.003215723062614568236 7
[100000]= 0.001053519396682899142 1
[1000000]= 0.000094300052958372078 0
[10000000]= 0.000003705878249452701 6
[100000000]=0.000070629302091781092 2
It does not converge to 0.

(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

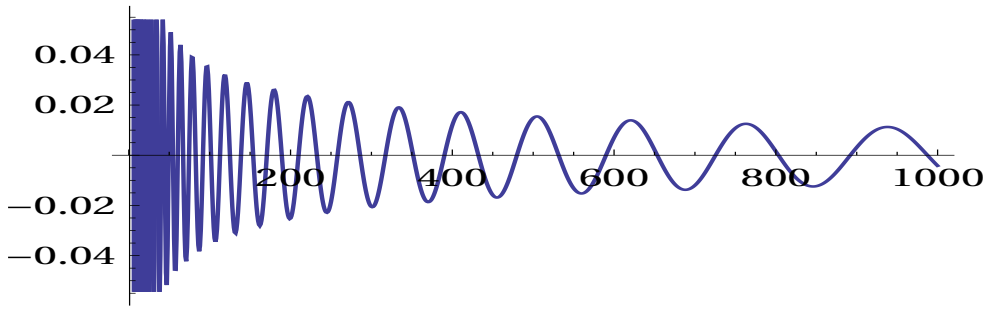


[10000]= -0.003685727318350589566 7
[100000]= -0.001167931893697444914 8
[1000000]= -0.000273216401393920008 8
[10000000]= -0.000191604861721904096 2
[100000000]=-0.000250709258547390421 1
It does not converge to 0.

(The axis is 0.5 +0.0001)

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

= -0.004196378625761797127850868428917737781222

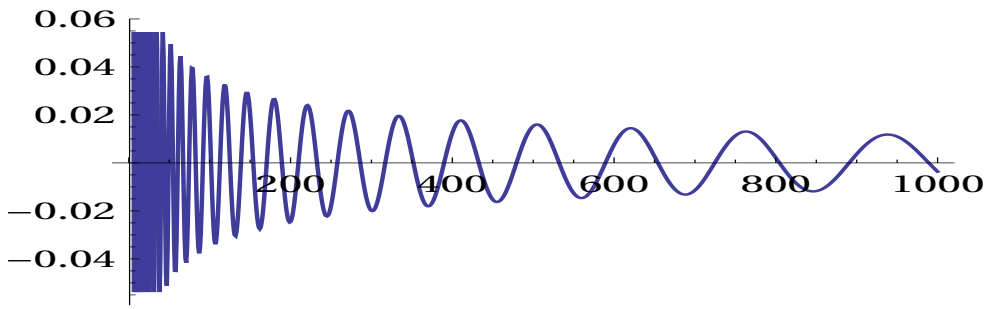


[10000]= -0.003110433566525467 2846
[100000]= -0.000597214086202124 5314
[1000000]= 0.000295314885364827 8642
[10000000]= 0.000376647498124926 3716
[100000000]=0.000317726176400590 3698
It does not converge to 0.

(The axis is 0.5 -0.0001)

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

= -0.006520873872352604350683258279120869089259

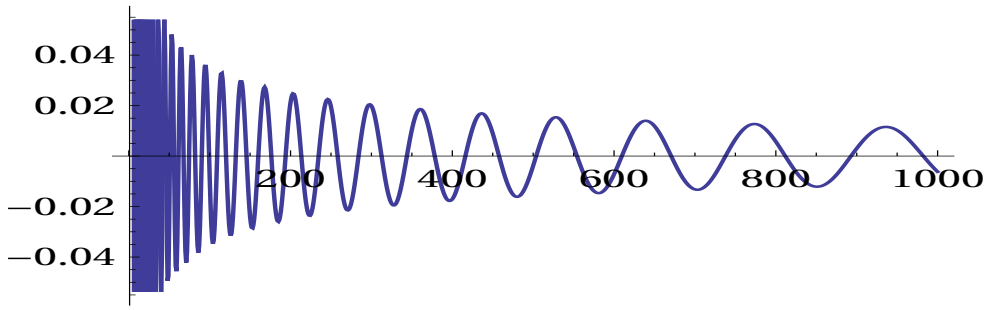


[10000]= -0.003326587015533984 8958
[100000]= -0.001425999753792001 1002
[1000000]= -0.000649934004796780 2842
[10000000]= -0.000395268754985239 2001
[100000000]= -0.000326991633907248 7417
It does not converge to 0.

(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

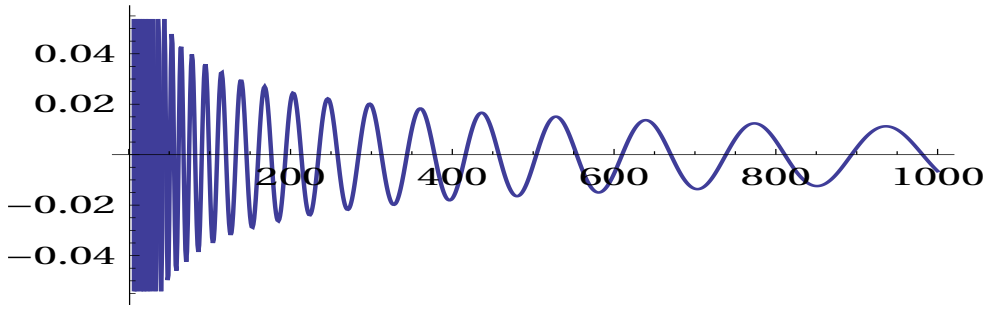


[10000]= -0.003018797493381407924 5
[100000]= -0.001119835802249660164 0
[1000000]= -0.000344639514090284873 4
[10000000]= -0.000090324813304388352 3
[100000000]=-0.000022159407427302588 0
converge to 0.

(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

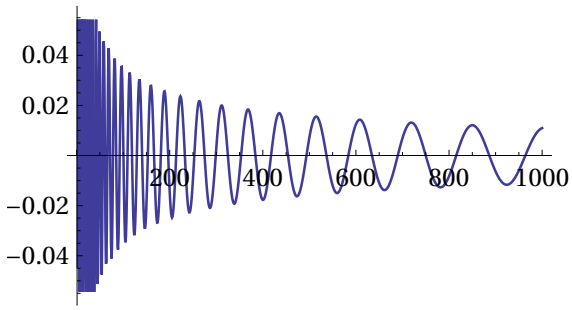


[10000]= -0.002711086285963923252 2
[100000]= -0.000813748868329038218 7
[1000000]= -0.000039421092356022285 5
[10000000]= 0.000214543536277744063 6
[100000000]= 0.000282597408932137709 5
It does not converge to 0.

(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....

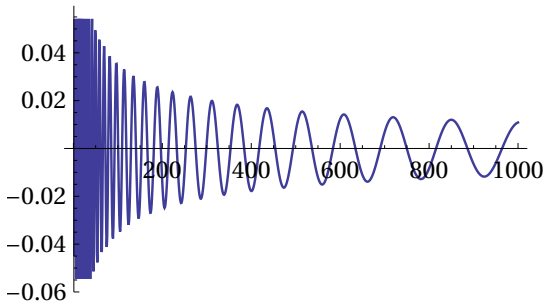


[10000]= -0.000286767853091962 1984
[100000]= -0.001246427383723641 6586
[1000000]= -0.000224165474263932 4536
[10000000]= -0.000030803203509312 14237
[100000000]= -0.000114602257286722 5783
It does not converge to 0.

(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....

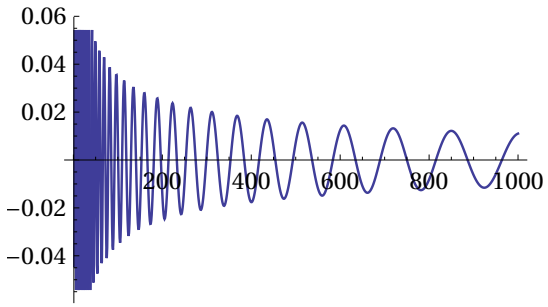


[10000]= -0.000196923725782987 8525
[100000]= -0.001155377348178915 7869
[1000000]= -0.000134341606145132 8184
[10000000]= 0.000058716717248990 8842
[100000000]= -0.000024945916912974 8873
converge to 0.

(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....

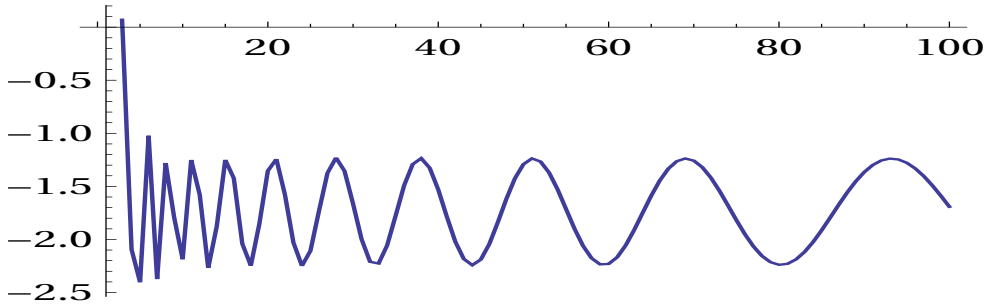


[10000]= -0.0001070865329218817518
[100000]= -0.0010643357530222712949
[1000000]= -0.0000445247128895299153
[10000000]= 0.0001482301450447530726
[100000000]= 0.0000647037088475878962

(The axis is 0.00001)

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

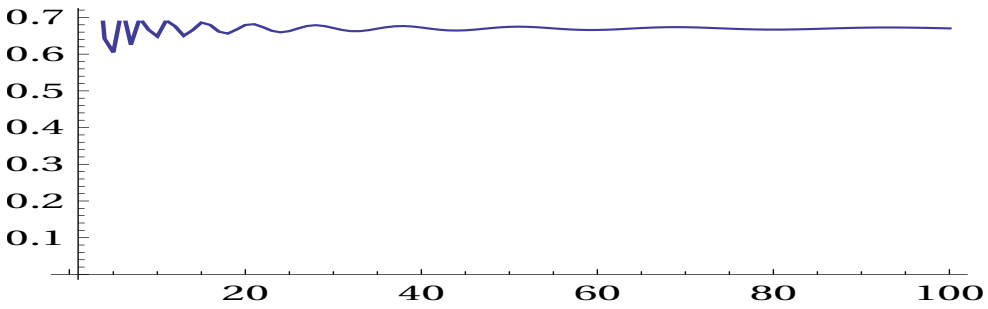
= -1.69237519579029077468462713961455815486 6....



(The axis is 0.99999)

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

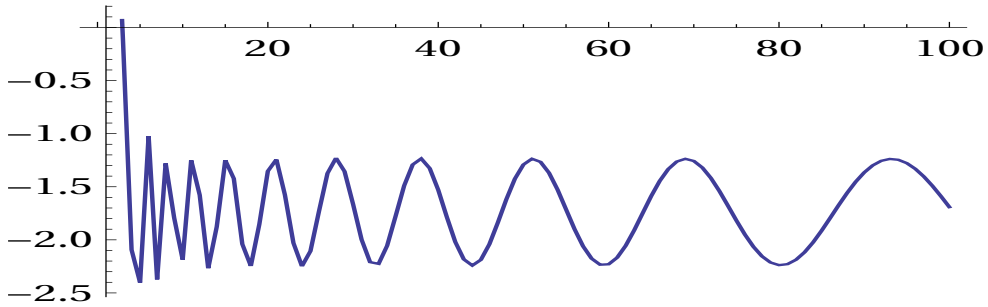
= 0.67022898303449753285147361635621286193 93....



(The axis is 0.0001)

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

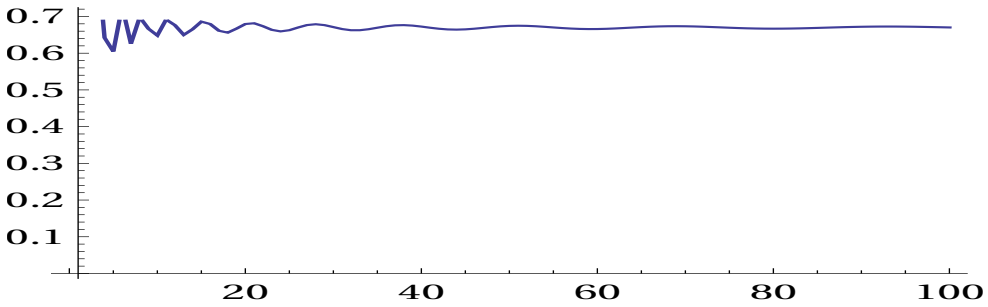
= -1.691914810408940984710921687899051853499....



(The axis is 0.9999)

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

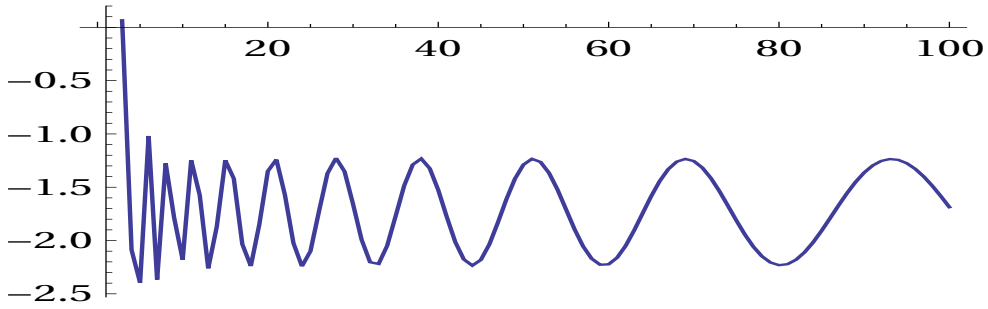
= 0.670157947361434047604773400487360636436 8....



(The axis is 0.001)

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

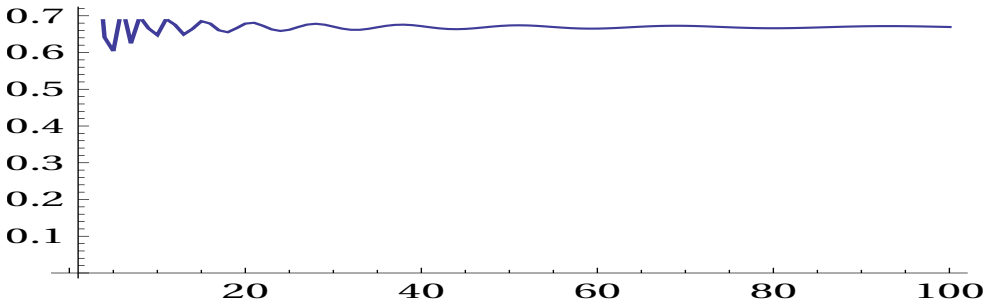
= -1.687314830139069704606318113596237362764....



(The axis is 0.999)

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

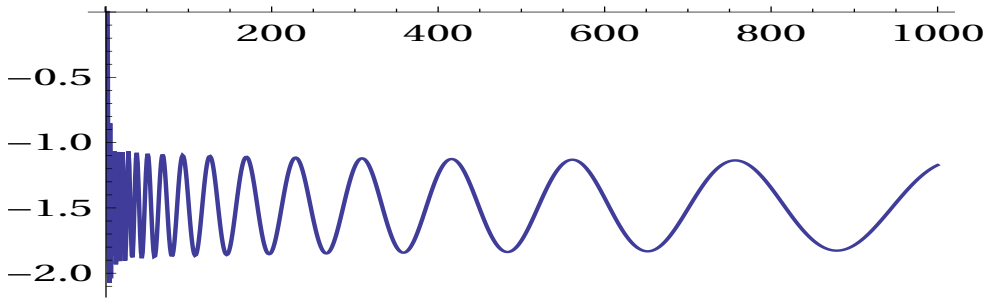
= 0.669446894244212304186195526108561268379 2....



(The axis is 0.05)

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

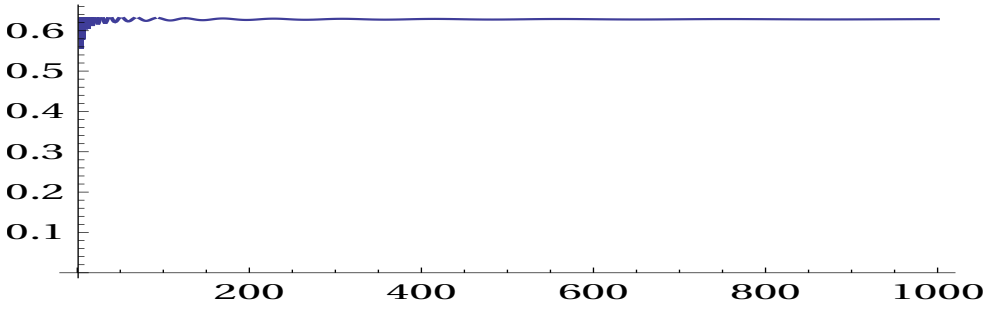
= -1.17202627800410380989751555952648260589 2....



(The axis is 0.95)

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

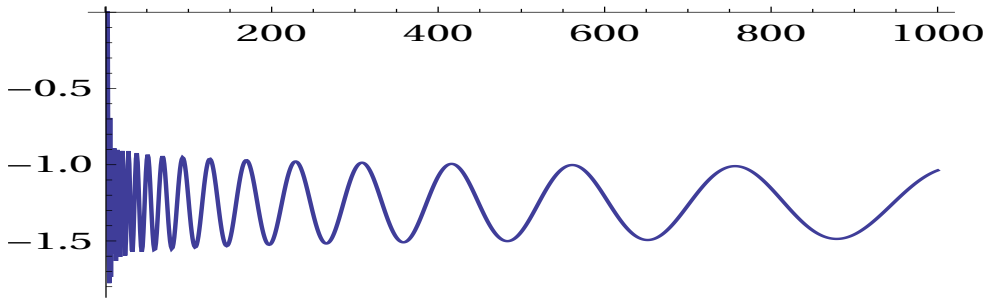
= 0.628793327503768552125482769229183595256....



(The axis is 0.1)

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

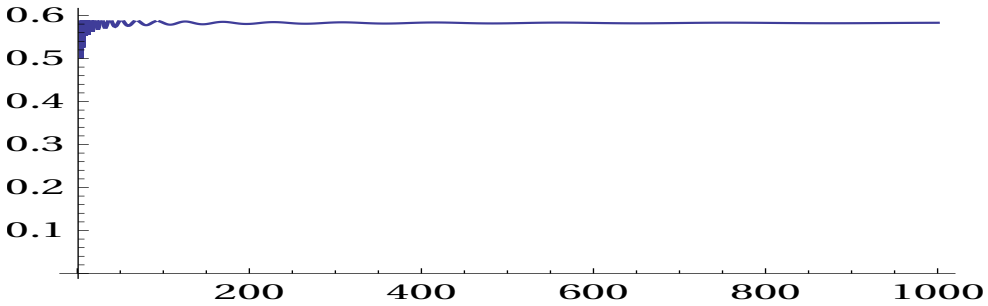
= -1.037181038243812266182221182644218150841....



(The axis is 0.9)

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

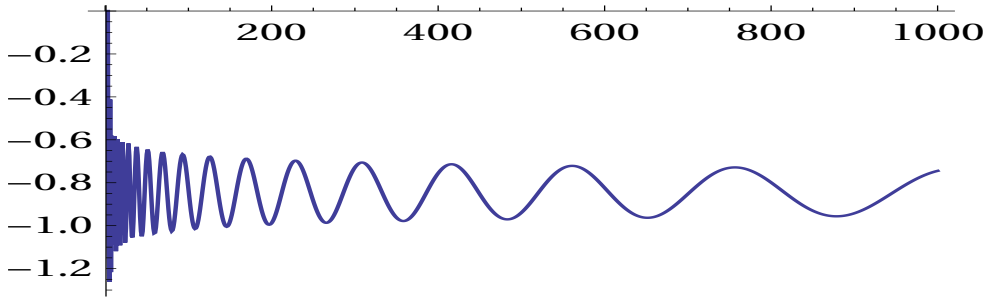
= 0.583091159670182512048364884832666514797 26....



(The axis is 0.2)

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

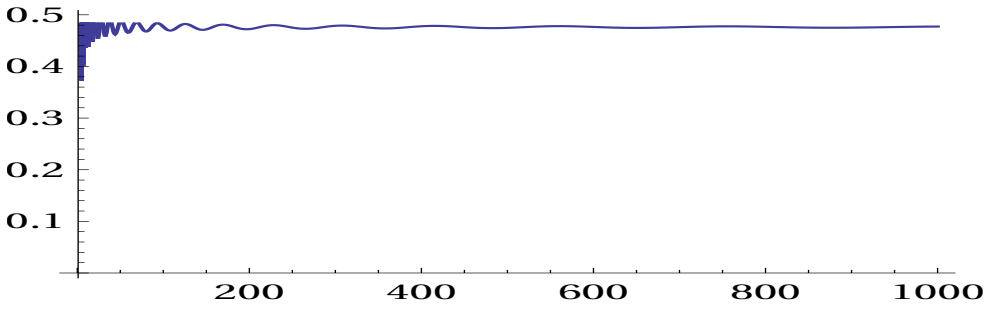
= -0.744793550996695078114144863729528045510 0....



(The axis is 0.8)

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

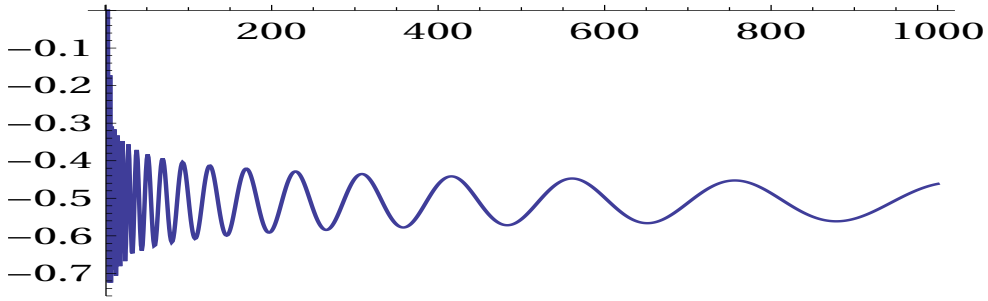
= 0.477262998523577592781968441021480087066 8....



(The axis is 0.3)

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

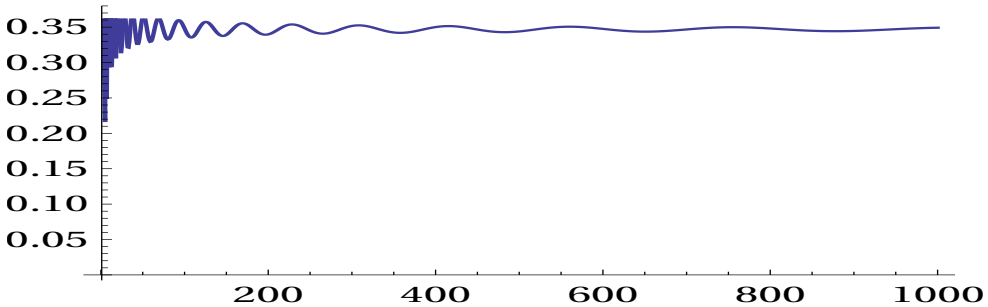
= -0.461695959638792697167789777438384029957 5....



(The axis is 0.7)

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

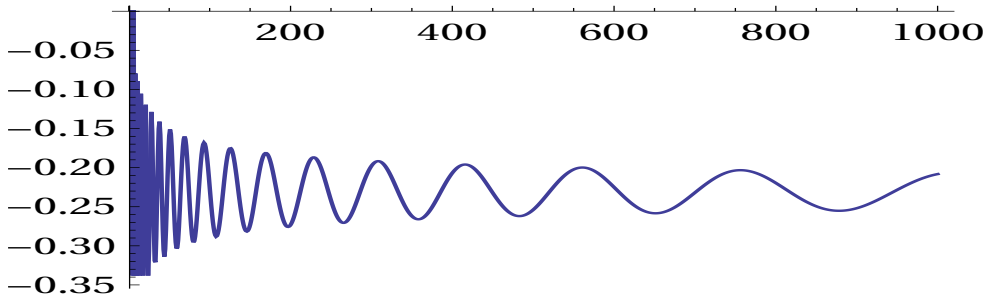
= 0.34917777683621681911737846635035573927 73....



(The axis is 0.4)

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

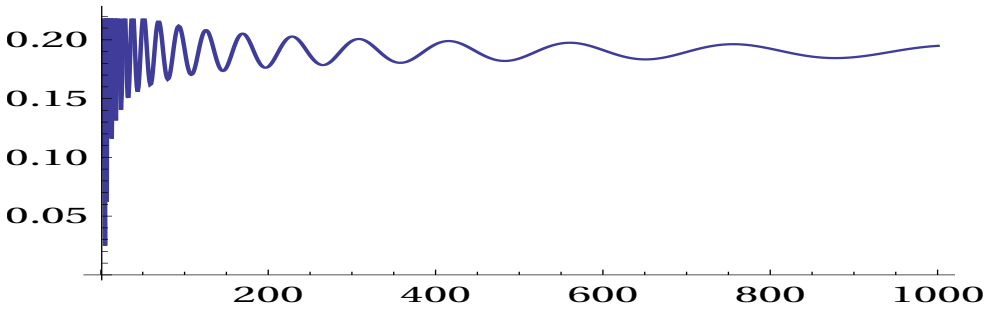
= -0.208278908871937283658286950663559658981 7....



(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

(Summary 1)

If c shifts to 0.00001,	it converge around -1.69.
If c shifts to 0.1,	it converge around -1.04.
If c shifts to 0.2,	it converge around -0.462.
If c shifts to 0.3,	it converge around -0.745.
If c shifts to 0.4,	it converge around -0.200.
If c shifts to 0.49,	it converge around -0.02.
If c shifts to 0.499,	it converge around -0.009.
If c shifts to 0.4999,	it converge around -0.0002.
If c shifts to 0.49999,	it converge around -0.00003.
If c shifts to 0.499999,	it converge around -0.000016.
If c shifts to 0.4999999,	it converge around -0.0000077.
If c shifts to 0.5000001,	it converge around 0.0000089.
If c shifts to 0.500001,	it converge around 0.000017.
If c shifts to 0.50001,	it converge around 0.00003.
If c shifts to 0.5001,	it converge around 0.0002.
If c shifts to 0.501,	it converge around 0.009.
If c shifts to 0.51,	it converge around 0.02.
If c shifts to 0.6,	it converge around 0.199.
If c shifts to 0.7,	it converge around 0.349.
If c shifts to 0.8,	it converge around 0.477.
If c shifts to 0.9,	it converge around 0.583.
If c shifts to 0.99999,	it converge around 0.67.

From the above, it can be seen that deviates from real value 0.5, the converging value deviates from zero.
It can also be seen that as it convergence to 0 is impossible unless it is around real value 0.5.

That is, unless it is at least around real value 0.5, it can not be a non-trivial zero.

If it deviates slightly from real value 0.5 (for example, it deviates by 0.0001), it dons not converge 0.
It converge slightly shifted value from 0.

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, I think that the value of the non-trivial zero has been shown quite well.

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4 key words

Riemann hypothesis, infinite series, non-trivial zero point