

New formula of ζ even-numbers

Toshiro Takami*
mmm82889@yahoo.co.jp

abstract

I published the odd value formula for ζ , but I realized that this was true even when it was even.
Therefore, it will be announced.

key words

ζ even-numbers, New formula

1 Introduction

I made official previous paper[1].

$$\zeta(2m-1) = \frac{2^{2m-1}}{2^{2m-1}-1} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m-1}} \quad (1)$$

m is a positive integer.

This formula holds for odd numbers, but it may hold for even numbers.

In this case, the formula is transformed as follows:

$$\zeta(2m) = \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m}} + \sum_{n=1}^{\infty} \frac{1}{(2n)^{2m}} = \frac{1}{2^{2m}} \sum_{n=1}^{\infty} \frac{1}{n^{2m}} + \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m}} = \frac{1}{2^{2m}} \zeta(2m) + \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m}} \quad (2)$$

$$(1 - \frac{1}{2^{2m}}) \zeta(2m) = (\frac{2^{2m}-1}{2^{2m}}) \zeta(2m) = \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m}} \quad (3)$$

$$\zeta(2m) = \frac{2^{2m}}{2^{2m}-1} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{2m}} \quad (4)$$

m is a positive integer.

*47-8 Kuyamadai, Isahaya-shi, Nagasaki-prefecture, 854-0067 Japan

If m=1

$$\zeta(2) = \frac{2^2}{2^2 - 1} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^2} = \frac{4}{3} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^2} \quad (5)$$

If $\infty=10$

$\zeta(2) \approx 1.611628414...$

If $\infty=20$

$\zeta(2) \approx 1.628270869...$

If $\infty=30$

$\zeta(2) \approx 1.633823984...$

$\zeta(2) = 1.644934066...$

$\infty=30$ seemed to be the limit of the calculator.

If m=2

$$\zeta(4) = \frac{16}{15} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^4} \quad (6)$$

If $\infty=10$

$\zeta(4) \approx 1.082301121...$

If $\infty=20$

$\zeta(4) \approx 1.082320459...$

If $\infty=30$

$\zeta(4) \approx 1.0823224...$

$\zeta(4) = 1.0823232...$

$\infty=30$ seemed to be the limit of the calculator.

If m=3

$$\zeta(6) = \frac{64}{63} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^6} \quad (7)$$

If $\infty=10$

$\zeta(6) \approx 1.01734303062...$

If $\infty=20$

$\zeta(6) \approx 1.01734306099...$

$\zeta(6) = 1.01734306198...$

$\infty=20$ seemed to be the limit of the calculator.

If m=4

$$\zeta(8) = \frac{256}{255} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^8} \quad (8)$$

If $\infty=10$

$$\zeta(8) \approx 1.00407735614319...$$

If $\infty=20$

$$\zeta(8) \approx 1.00407735619750...$$

$$\zeta(8) = 1.00407735619794...$$

$\infty=20$ seemed to be the limit of the calculator.

If $m=5$

$$\zeta(10) = \frac{1024}{1023} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{10}} \quad (9)$$

If $\infty=10$

$$\zeta(10) \approx 1.00099457512771...$$

$$\zeta(10) = 1.00099457512781...$$

$\infty=10$ seemed to be the limit of the calculator.

If $m=6$

$$\zeta(12) = \frac{4096}{4095} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{12}} \quad (10)$$

If $\infty=10$

$$\zeta(12) \approx 1.0002460865533078...$$

$$\zeta(12) = 1.0002460865533080...$$

$\infty=10$ seemed to be the limit of the calculator.

If $m=7$

$$\zeta(14) = \frac{16384}{16383} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{14}} \quad (11)$$

If $\infty=10$

$$\zeta(14) \approx 1.00006124813505870439...$$

$$\zeta(14) = 1.00006124813505870482...$$

$\infty=10$ seemed to be the limit of the calculator.

If $m=8$

$$\zeta(16) = \frac{65536}{65535} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{16}} \quad (12)$$

If $\infty=9$

$$\zeta(16) \approx 1.000015282259408651846...$$

$$\zeta(16) = 1.000015282259408651871...$$

$\infty=8$ seemed to be the limit of the calculator.

If m=9

$$\zeta(18) = \frac{262144}{262143} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{18}} \quad (13)$$

If $\infty=8$

$$\zeta(18) \approx 1.00000381729326499983977...$$

$$\zeta(18) = 1.00000381729326499983985...$$

$\infty=8$ seemed to be the limit of the calculator.

If m=10

$$\zeta(20) = \frac{1048576}{1048575} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{20}} \quad (14)$$

If $\infty=8$

$$\zeta(20) \approx 1.0000009539620338727961128...$$

$$\zeta(20) = 1.0000009539620338727961131...$$

∞

$=8$ seemed to be the limit of the calculator.

If m=11

$$\zeta(22) = \frac{4194304}{4194303} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{22}} \quad (15)$$

If $\infty=8$

$$\zeta(22) \approx 1.0000002384505027277329900027...$$

$$\zeta(22) = 1.0000002384505027277329900036...$$

∞

$=8$ seemed to be the limit of the calculator.

If m=12

$$\zeta(24) = \frac{16777216}{16777215} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{24}} \quad (16)$$

If $\infty=8$

$$\zeta(24) \approx 1.000000059608189051259479612437...$$

$$\zeta(24) = 1.000000059608189051259479612440...$$

∞

$=8$ seemed to be the limit of the calculator.

If m=13

$$\zeta(26) = \frac{67108864}{67108863} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{26}} \quad (17)$$

If $\infty=6$

$\zeta(26) \approx 1.000000014901554828365041234647...$

$\zeta(26) = 1.000000014901554828365041234658...$

$\infty=6$ seemed to be the limit of the calculator.

If m=14

$$\zeta(28) = \frac{268435456}{268435455} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{28}} \quad (18)$$

If $\infty=6$

$\zeta(28) \approx 1.00000000372533402478845705481913...$

$\zeta(28) = 1.00000000372533402478845705481920...$

$\infty=6$ seemed to be the limit of the calculator.

If m=15

$$\zeta(30) = \frac{1073741824}{1073741823} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{30}} \quad (19)$$

If $\infty=6$

$\zeta(30) \approx 1.00000000093132743241966818287176434...$

$\zeta(30) = 1.00000000093132743241966818287176473...$

$\infty=6$ seemed to be the limit of the calculator.

If m=16

$$\zeta(32) = \frac{4294967296}{4294967295} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{32}} \quad (20)$$

If $\infty=4$

$\zeta(32) \approx 1.000000000232831183367650549199...$

$\zeta(32) = 1.000000000232831183367650549200...$

$\infty=4$ seemed to be the limit of the calculator.

If m=17

$$n\zeta(34) = \frac{17179869184}{17179869183} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{34}} \quad (21)$$

If $\infty=4$

$$\zeta(34) \approx 1.0000000000582077208790270088924332...$$

$$\zeta(34) = 1.0000000000582077208790270088924368...$$

$\infty=4$ seemed to be the limit of the calculator.

If $m=18$

$$\zeta(36) = \frac{68719476736}{68719476735} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{36}} \quad (22)$$

If $\infty=4$

$$\zeta(36) \approx 1.00000000001455192189104198423592958...$$

$$\zeta(36) = 1.00000000001455192189104198423592963...$$

$\infty=4$ seemed to be the limit of the calculator.

If $m=19$

$$\zeta(38) = \frac{274877906944}{274877906943} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{38}} \quad (23)$$

If $\infty=4$

$$\zeta(38) \approx 1.0000000000036379795473786511902372358...$$

$$\zeta(38) = 1.0000000000036379795473786511902372363...$$

$\infty=4$ seemed to be the limit of the calculator.

If $m=20$

$$\zeta(40) = \frac{1099511627776}{1099511627775} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{40}} \quad (24)$$

If $\infty=4$

$$\zeta(40) \approx 1.0000000000009094947840263889282533118319...$$

$$\zeta(40) = 1.0000000000009094947840263889282533118386...$$

$\infty=4$ seemed to be the limit of the calculator.

If $m=21$

$$\zeta(42) = \frac{4398046511104}{4398046511103} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{42}} \quad (25)$$

If $\infty=4$

$$\zeta(42) \approx 1.000000000000227373684582465251522682157714...$$

$$\zeta(42) = 1.000000000000227373684582465251522682157797...$$

$\infty=4$ seemed to be the limit of the calculator.

If m=22

$$\zeta(44) = \frac{17592186044416}{17592186044415} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{44}} \quad (26)$$

If $\infty=4$

$$\zeta(44) \approx 1.0000000000000056843419876275856092771829674...$$

$$\zeta(44) = 1.0000000000000056843419876275856092771829675...$$

$\infty=4$ seemed to be the limit of the calculator.

If m=23

$$\zeta(46) = \frac{70368744177664}{70368744177663} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{46}} \quad (27)$$

If $\infty=4$

$$\zeta(46) \approx 1.0000000000000014210854828031606769834307141726...$$

$$\zeta(46) = 1.0000000000000014210854828031606769834307141739...$$

$\infty=4$ seemed to be the limit of the calculator.

If m=24

$$\zeta(48) = \frac{281474976710656}{281474976710655} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{48}} \quad (28)$$

If $\infty=4$

$$\zeta(48) \approx 1.000000000000000355271369133711367329846953405918...$$

$$\zeta(48) = 1.000000000000000355271369133711367329846953405934...$$

$\infty=4$ seemed to be the limit of the calculator.

If m=25

$$\zeta(50) = \frac{1125899906842624}{1125899906842623} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{50}} \quad (29)$$

If $\infty=4$

$$\zeta(50) \approx 1.00000000000000008881784210930815903096091386391366...$$

$$\zeta(50) = 1.00000000000000008881784210930815903096091386391386...$$

$\infty=4$ seemed to be the limit of the calculator.

If m=26

$$\zeta(52) = \frac{4503599627370496}{4503599627370495} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{52}} \quad (30)$$

If $\infty=3$

$$\zeta(52) \approx 1.000000000000000222044605079804198399932009409...$$

$\zeta(52) = 1.0000000000000000222044605079804198399932009420...$
 $\infty=3$ seemed to be the limit of the calculator.

If $m=27$

$$\zeta(54) = \frac{18014398509481984}{18014398509481983} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{54}} \quad (31)$$

If $\infty=3$

$\zeta(54) \approx 1.0000000000000000555111512484548124372373659048...$

$\zeta(54) = 1.0000000000000000555111512484548124372373659050...$

$\infty=3$ seemed to be the limit of the calculator.

If $m=28$

$$\zeta(56) = \frac{72057594037927936}{72057594037927935} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{56}} \quad (32)$$

If $\infty=3$

$\zeta(56) \approx 1.000000000000000013877787809725232762839094906495...$

$\zeta(56) = 1.000000000000000013877787809725232762839094906500...$

$\infty=3$ seemed to be the limit of the calculator.

If $m=29$

$$\zeta(58) = \frac{288230376151711744}{288230376151711743} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{58}} \quad (33)$$

If $\infty=3$

$\zeta(58) \approx 1.00000000000000000346944695216592262474427149610923...$

$\zeta(58) = 1.00000000000000000346944695216592262474427149610933...$

$\infty=3$ seemed to be the limit of the calculator.

If $m=30$

$$\zeta(60) = \frac{1152921504606846976}{1152921504606846975} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{60}} \quad (34)$$

If $\infty=3$

$\zeta(60) \approx 1.000000000000000008673617380119933728342055067342931...$

$\zeta(60) = 1.000000000000000008673617380119933728342055067342951...$

$\infty=3$ seemed to be the limit of the calculator.

If m=31

$$\zeta(62) = \frac{4611686018427387904}{4611686018427387903} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{62}} \quad (35)$$

If $\infty=3$

$$\zeta(62) \approx 1.000000000000000000216840434499721978501391016832098417...$$

$$\zeta(62) = 1.000000000000000000216840434499721978501391016832098457...$$

$\infty=3$ seemed to be the limit of the calculator.

If m=32

$$\zeta(64) = \frac{18446744073709551616}{18446744073709551615} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{64}} \quad (36)$$

If $\infty=3$

$$\zeta(64) \approx 1.000000000000000000542101086245664541091870040438863363...$$

$$\zeta(64) = 1.000000000000000000542101086245664541091870040438863371...$$

$\infty=3$ seemed to be the limit of the calculator.

If m=33

$$\zeta(66) = \frac{73786976294838206464}{73786976294838206463} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{66}} \quad (37)$$

If $\infty=3$

$$\zeta(66) \approx 1.00000000000000000013552527156101164581485233996826928312...$$

$$\zeta(66) = 1.00000000000000000013552527156101164581485233996826928329...$$

$\infty=3$ seemed to be the limit of the calculator.

If m=34

$$\zeta(68) = \frac{295147905179352825856}{295147905179352825855} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{68}} \quad (38)$$

If $\infty=3$

$$\zeta(68) \approx 1.00000000000000000003388131789020796818085703100450836833...$$

$$\zeta(68) = 1.00000000000000000003388131789020796818085703100450836834...$$

$\infty=3$ seemed to be the limit of the calculator.

If m=35

$$\zeta(70) = \frac{1180591620717411303424}{1180591620717411303423} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{70}} \quad (39)$$

If $\infty=3$

$$\zeta(70) \approx 1.00000000000000000008470329472546998348246992609182167522214...$$

$$\zeta(70) = 1.00000000000000000008470329472546998348246992609182167522283...$$

If $\infty=3$

$\zeta(80) \approx 1.000000000000000000000000082718061255303444036711056167440724040096808...$

$\zeta(80) = 1.000000000000000000000000082718061255303444036711056167440724040096811...$

$\infty=3$ seemed to be the limit of the calculator.

If $m=41$

$$\zeta(82) = \frac{4835703278458516698824704}{4835703278458516698824703} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{82}} \quad (45)$$

If $\infty=2$

$\zeta(82) \approx 1.000000000000000000000000020679515313825767043959679193468902...$

$\zeta(82) = 1.000000000000000000000000020679515313825767043959679193468950...$

$\infty=2$ seemed to be the limit of the calculator.

If $m=42$

$$\zeta(84) = \frac{19342813113834066795298816}{19342813113834066795298815} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{84}} \quad (46)$$

If $\infty=2$

$\zeta(84) \approx 1.00000000000000000000000005169878828456431320410133216635549...$

$\zeta(84) = 1.00000000000000000000000005169878828456431320410133216635551...$

$\infty=2$ seemed to be the limit of the calculator.

If $m=43$

$$\zeta(86) = \frac{77371252455336267181195264}{77371252455336267181195263} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{86}} \quad (47)$$

If $\infty=2$

$\zeta(86) \approx 1.0000000000000000000000000129246970711410667003811261183318645...$

$\zeta(86) = 1.0000000000000000000000000129246970711410667003811261183318653...$

$\infty=2$ seemed to be the limit of the calculator.

If $m=44$

$$\zeta(88) = \frac{309485009821345068724781056}{309485009821345068724781055} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{88}} \quad (48)$$

If $\infty=2$

$\zeta(88) \approx 1.00000000000000000000000003231174267785265386134814118026657386...$

$\zeta(88) = 1.00000000000000000000000003231174267785265386134814118026657417...$

$\infty=2$ seemed to be the limit of the calculator.

If $m=45$

$$\zeta(90) = \frac{1237940039285380274899124224}{1237940039285380274899124223} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{90}} \quad (49)$$

If $\infty=2$

[illegible][illegible]

$\infty=2$ seemed to be the limit of the calculator.

If $m=46$

$$\zeta(92) = \frac{4951760157141521099596496896}{4951760157141521099596496895} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{92}} \quad (50)$$

If $\infty=2$

[illegible][illegible]

$\infty=2$ seemed to be the limit of the calculator.

If $m=47$

$$\zeta(94) = \frac{19807040628566084398385987584}{19807040628566084398385987583} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{94}} \quad (51)$$

If $\infty=2$

[illegible][illegible]

If $m=48$

$$\zeta(96) = \frac{79228162514264337593543950336}{79228162514264337593543950335} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{96}} \quad (52)$$

If $\infty=2$

[illegible][illegible]

If $m=49$

$$\zeta(98) = \frac{316912650057057350374175801344}{316912650057057350374175801343} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{98}} \quad (53)$$

If $\infty=2$

$$\zeta(98) \approx 1.000000000000000000000000000000031554436208840472391098412184847972814339...$$
[illegible]

If $m=50$

$$\zeta(100) = \frac{1267650600228229401496703205376}{1267650600228229401496703205375} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{100}} \quad (54)$$

If $\infty=2$

$$\begin{aligned}\zeta(100) &\approx 1.0000000000000000000000000078886090522101180735205378276604136878949... \\ \zeta(100) &= 1.0000000000000000000000000000000078886090522101180735205378276604136878962...\end{aligned}$$

If $m=51$

$$\zeta(102) = \frac{5070602400912917605986812821504}{5070602400912917605986812821503} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{102}} \quad (55)$$

If $\infty=2$

[illegible]

If $m=52$

$$\zeta(104) = \frac{20282409603651670423947251286016}{20282409603651670423947251286015} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{104}} \quad (56)$$

If $\infty=2$

[illegible]

If $m=53$

$$\zeta(106) = \frac{81129638414606681695789005144064}{81129638414606681695789005144063} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{106}} \quad (57)$$

If $\infty=2$

[illegible]

If $m=54$

$$\zeta(108) = \frac{324518553658426726783156020576256}{324518553658426726783156020576255} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{108}} \quad (58)$$

If $\infty=2$

[illegible]

If $\infty=2$

$$\zeta(110) \approx$$

$$\zeta(110)=$$

If $m=56$

If $\infty=2$

$$\zeta(112) \approx$$
$$\zeta(112)=$$

If $m=57$

If $\infty=2$

$$\zeta(114) \approx$$
$$\zeta(114)=$$

If $m=58$

If $\infty=2$

$$\zeta(116) \approx$$
 $\zeta(116)=$ [illegible]

If $m=59$

$$\zeta(118) = \frac{332306998946228968225951765070086144}{332306998946228968225951765070086143} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{118}} \quad (63)$$

If $\infty=2$

$$\zeta(118) \approx$$

[illegible]

$$\zeta(118)=$$

[illegible]

If $m=60$

$$\zeta(120) = \frac{1329227995784915872903807060280344576}{1329227995784915872903807060280344575} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{120}} \quad (64)$$

If $\infty=2$

$$\zeta(120) \approx$$

1.00000000000000000000000000000000752316384526264005100547863659914078685253127399...

$$\zeta(120)=$$

1.0000000000000000000000000000000000752316384526264005100547863659914078685253127401...

If $m=61$

$$\zeta(122) = \frac{5316911983139663491615228241121378304}{5316911983139663491615228241121378303} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{122}} \quad (65)$$

If $\infty=2$

$$\zeta(122) \approx$$

[illegible]

$$\zeta(122)=$$

[illegible]

If $m=62$

$$\zeta(124) = \frac{21267647932558653966460912964485513216}{21267647932558653966460912964485513215} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{124}} \quad (66)$$

If $\infty=2$

$$\zeta(124) \approx$$

[illegible]

$$\zeta(124)=$$

[illegible]

If $m=63$

$$\zeta(126) = \frac{85070591730234615865843651857942052864}{85070591730234615865843651857942052863} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{126}} \quad (67)$$

If $\infty=2$

[illegible]

If $m=64$

$$\zeta(128) = \frac{340282366920938463463374607431768211456}{340282366920938463463374607431768211455} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{128}} \quad (68)$$

[illegible]

If $m=65$

$$\zeta(130) = \frac{1361129467683753853853498429727072845824}{1361129467683753853853498429727072845823} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{130}} \quad (69)$$

If $\infty=2$
 $\zeta(130) \approx$
 1.0000000000000000000000000000000073468396926392969248046975979881822702829325792306253...
 $\zeta(130)=$
 1.00000000000000000000000000000000073468396926392969248046975979881822702829325792306267...

If $m=66$

$$\zeta(132) = \frac{5444517870735015415413993718908291383296}{5444517870735015415413993718908291383295} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{132}} \quad (70)$$

[illegible]

$$\zeta(134) = \frac{21778071482940061661655974875633165533184}{21778071482940061661655974875633165533183} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{134}} \quad (71)$$

[illegible]

If $m=68$

If $\infty=2$

If $m=69$

If $\infty=2$

If $m=70$

If $\infty=2$

If $m=71$

17

If $\infty=2$

$$\zeta(142) \approx$$
[illegible]
$$\zeta(142)=$$
[illegible]

If $m=72$

$$\zeta(144) = \frac{22300745198530623141535718272648361505980416}{22300745198530623141535718272648361505980415} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{144}} \quad (76)$$

If $\infty=2$

$$\zeta(144) \approx$$
[illegible]
$$\zeta(144)=$$
[illegible]

If $m=73$

$$\zeta(146) = \frac{89202980794122492566142873090593446023921664}{89202980794122492566142873090593446023921663} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{146}} \quad (77)$$

If $\infty=2$

$$\zeta(146) \approx$$
[illegible] $\zeta(146)=$ [illegible]

The computer can't give me any more precision.

2 Conclusion

The odd formula for ζ has been released, but it has become clear that this is true even when it is even.

3 Appendices

I use WolframAlpha for calculation.

References

- [1] B.Riemann.: Uber die Anzahl der Primzahlen unter einer gegebenen Grosse, Mon. Not. Berlin Akad pp.671-680, 1859
- [2] John Derbyshire.: Prime Obsession: Bernhard Riemann and The Greatest Unsolved Problem in Mathematics, Joseph Henry Press, 2003
- [3] S.Kurokawa.: Riemann hypothesis, Japan Hyoron Press, 2009
- [4] Marcus du Sautoy.: The Music of The Primes, Zahar Press, 2007
- [5] T. takami.: Formula of ζ Odd-Numbers, viXra:1909.0385
- [6] T. takami.: $\zeta(5), \zeta(7), \dots, \zeta(331), \zeta(333)$ are Irrational Number, viXra:1909.0315