New formula of $\zeta$ even-numbers

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

key words
$\zeta$ even-numbers, New formula

1 Introduction
I made official previous paper[1].

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

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

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

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

m is a positive integer.

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If \( m = 1 \)

\[
\zeta(2) = \frac{2^2}{2^2 - 1} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^2} = \frac{4}{3} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^2}
\]  

(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 \( m = 2 \)

\[
\zeta(4) = \frac{16}{15} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^4}
\]  

(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 \( m = 3 \)

\[
\zeta(6) = \frac{64}{63} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^6}
\]  

(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 \( m = 4 \)

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

(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 \( m=5 \)

\[
\zeta(10) = \frac{1024}{1023} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{10}}
\]

(9)

If \( \infty=10 \)

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

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

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

If \( m=6 \)

\[
\zeta(12) = \frac{4096}{4095} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{12}}
\]

(10)

If \( \infty=10 \)

\( \zeta(12) \approx 1.000246086553078... \)

\( \zeta(12) = 1.000246086553080... \)

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

If \( m=7 \)

\[
\zeta(14) = \frac{16384}{16383} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{14}}
\]

(11)

If \( \infty=10 \)

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

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

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

If \( m=8 \)

\[
\zeta(16) = \frac{65536}{65535} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{16}}
\]

(12)

If \( \infty=9 \)

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

\( \zeta(18) = 1.000015282259408651871... \)

\( \infty=8 \) 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 $\infty=8$

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

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

$\infty=8$ 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 $\infty=8$

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

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

$\infty=8$ 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 $\infty=8$

$\zeta(24) \approx 1.00000059608189051259479612437...$

$\zeta(24) = 1.00000059608189051259479612440...$

$\infty=8$ seemed to be the limit of the calculator.
If \( m=13 \)
\[
\zeta(26) = \frac{67108864}{67108863} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{26}}
\tag{17}
\]

If \( \infty=6 \)
\[
\zeta(26) \approx 1.000000014901554828365041234647...
\]
\[
\zeta(26) = 1.000000014901554828365041234658...
\]
\( \infty=6 \) seemed to be the limit of the calculator.

If \( m=14 \)
\[
\zeta(28) = \frac{268435456}{268435455} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{28}}
\tag{18}
\]

If \( \infty=6 \)
\[
\zeta(28) \approx 1.00000000372533402478845705481913...
\]
\[
\zeta(28) = 1.00000000372533402478845705481920...
\]
\( \infty=6 \) seemed to be the limit of the calculator.

If \( m=15 \)
\[
\zeta(30) = \frac{1073741824}{1073741823} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{30}}
\tag{19}
\]

If \( \infty=6 \)
\[
\zeta(30) \approx 1.00000000093132743241966818287176434...
\]
\[
\zeta(30) = 1.00000000093132743241966818287176473...
\]
\( \infty=6 \) seemed to be the limit of the calculator.

If \( m=16 \)
\[
\zeta(32) = \frac{4294967296}{4294967295} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{32}}
\tag{20}
\]

If \( \infty=4 \)
\[
\zeta(32) \approx 1.000000000232831833676505491999...
\]
\[
\zeta(32) = 1.000000000232831833676505492000...
\]
\( \infty=4 \) seemed to be the limit of the calculator.

If \( m=17 \)
\[
\zeta(34) = \frac{17179869184}{17179869183} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{34}}
\tag{21}
\]

If \( \infty=4 \)
\[
\zeta(34) \approx 1.00000000005820772087902700888924332...
\]
\[
\zeta(34) = 1.00000000005820772087902700888924368...
\]
∞=4 seemed to be the limit of the calculator.

If \( m=18 \)

\[
\zeta(36) = \frac{68719476736}{68719476735} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{36}} \tag{22}
\]

If \( \infty=4 \)

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

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

∞=4 seemed to be the limit of the calculator.

If \( m=19 \)

\[
\zeta(38) = \frac{274877906944}{274877906943} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{38}} \tag{23}
\]

If \( \infty=4 \)

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

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

∞=4 seemed to be the limit of the calculator.

If \( m=20 \)

\[
\zeta(40) = \frac{1099511627776}{1099511627775} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{40}} \tag{24}
\]

If \( \infty=4 \)

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

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

∞=4 seemed to be the limit of the calculator.

If \( m=21 \)

\[
\zeta(42) = \frac{4398046511104}{4398046511103} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{42}} \tag{25}
\]

If \( \infty=4 \)

\( \zeta(42) \approx 1.00000000000227373684582465251522682157714... \)

\( \zeta(42) = 1.00000000000227373684582465251522682157797... \)

∞=4 seemed to be the limit of the calculator.

If \( m=22 \)

\[
\zeta(44) = \frac{17592186044416}{17592186044415} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{44}} \tag{26}
\]
If \( \infty = 4 \)
\[
\zeta(44) \approx 1.000000000000056843419876275856092771829674\ldots
\]
\[
\zeta(44) = 1.000000000000056843419876275856092771829675\ldots
\]
\( \infty = 4 \) seemed to be the limit of the calculator.

If \( m = 23 \)
\[
\zeta(46) = \frac{70368744177664}{70368744177663} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{46}}
\] (27)

If \( \infty = 4 \)
\[
\zeta(46) \approx 1.000000000000014210854828031606769834307141726\ldots
\]
\[
\zeta(46) = 1.000000000000014210854828031606769834307141739\ldots
\]
\( \infty = 4 \) seemed to be the limit of the calculator.

If \( m = 24 \)
\[
\zeta(48) = \frac{281474976710656}{281474976710655} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{48}}
\] (28)

If \( \infty = 4 \)
\[
\zeta(48) \approx 1.00000000000000355271369133711367329846953405918\ldots
\]
\[
\zeta(48) = 1.00000000000000355271369133711367329846953405934\ldots
\]
\( \infty = 4 \) seemed to be the limit of the calculator.

If \( m = 25 \)
\[
\zeta(50) = \frac{1125899906842624}{1125899906842623} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{50}}
\] (29)

If \( \infty = 4 \)
\[
\zeta(50) \approx 1.0000000000000008881784210930815903096091386391366\ldots
\]
\[
\zeta(50) = 1.0000000000000008881784210930815903096091386391386\ldots
\]
\( \infty = 4 \) seemed to be the limit of the calculator.

If \( m = 26 \)
\[
\zeta(52) = \frac{4503599627370496}{4503599627370495} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{52}}
\] (30)

If \( \infty = 3 \)
\[
\zeta(52) \approx 1.00000000000000000000222044605079804198399932009409\ldots
\]
\[
\zeta(52) = 1.00000000000000000000222044605079804198399932009420\ldots
\]
\( \infty = 3 \) seemed to be the limit of the calculator.
If $m=27$

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

(31)

If $\infty=3$

$\zeta(54) \approx 1.000000000000000000000000000555111512484548124372373659048...$

$\zeta(54) = 1.000000000000000000000000000555111512484548124372373659050...$

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

If $m=28$

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

(32)

If $\infty=3$

$\zeta(56) \approx 1.000000000000000000000000000346944695216592262474427149610923...$

$\zeta(56) = 1.000000000000000000000000000346944695216592262474427149610933...$

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

If $m=29$

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

(33)

If $\infty=3$

$\zeta(58) \approx 1.000000000000000000000000000346944695216592262474427149610923...$

$\zeta(58) = 1.000000000000000000000000000346944695216592262474427149610933...$

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

If $m=30$

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

(34)

If $\infty=3$

$\zeta(60) \approx 1.0000000000000000000000000008673617380119933728342055067342931...$

$\zeta(60) = 1.0000000000000000000000000008673617380119933728342055067342951...$

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

If $m=31$

$$
\zeta(62) = \frac{46116686018427387904}{46116686018427387903} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{62}}
$$

(35)

If $\infty=3$

$\zeta(62) \approx 1.000000000000000000000000000216840434499721978501391016832098417...$
\( \zeta(62) = 1.00000000000000000216840434499721978501391016832098457... \)
\( \infty=3 \) seemed to be the limit of the calculator.

If \( m=32 \)
\[
\zeta(64) = \frac{18446744073709551616}{18446744073709551615} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{64}}
\] (36)

If \( \infty=3 \)
\( \zeta(64) \approx 1.000000000000000000000542101086245664541091870040438863363... \)
\( \zeta(64) = 1.000000000000000000000542101086245664541091870040438863371... \)
\( \infty=3 \) seemed to be the limit of the calculator.

If \( m=33 \)
\[
\zeta(66) = \frac{73786976294838206464}{73786976294838206463} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{66}}
\] (37)

If \( \infty=3 \)
\( \zeta(66) \approx 1.000000000000000000001355252715610116458148523996826928312... \)
\( \zeta(66) = 1.000000000000000000001355252715610116458148523996826928329... \)
\( \infty=3 \) seemed to be the limit of the calculator.

If \( m=34 \)
\[
\zeta(68) = \frac{295147905179352825856}{295147905179352825855} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{68}}
\] (38)

If \( \infty=3 \)
\( \zeta(68) \approx 1.000000000000000000003388131789020796818085703100450836833... \)
\( \zeta(68) = 1.000000000000000000003388131789020796818085703100450836834... \)
\( \infty=3 \) seemed to be the limit of the calculator.

If \( m=35 \)
\[
\zeta(70) = \frac{1180591620717411303424}{1180591620717411303423} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{70}}
\] (39)

If \( \infty=3 \)
\( \zeta(70) \approx 1.0000000000000000000008470329472546998348246992609182167522214... \)
\( \zeta(70) = 1.0000000000000000000008470329472546998348246992609182167522283... \)
\( \infty=3 \) seemed to be the limit of the calculator.
If $m=36$

$$\zeta(72) = 4722366482869645213696 \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{72}}$$

(40)

If $\infty=3$

$$\zeta(72) \approx 1.00000000000000000000021175823681361947318442094398180025869403...$$

$$\zeta(72) = 1.00000000000000000000021175823681361947318442094398180025869417...$$

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

If $m=37$

$$\zeta(74) = 18889465931478580854784 \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{74}}$$

(41)

If $\infty=3$

$$\zeta(74) \approx 1.000000000000000000000529395592033987032381391230291850558663727...$$

$$\zeta(74) = 1.000000000000000000000529395592033987032381391230291850558663756...$$

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

If $m=38$

$$\zeta(76) = 75557863725914323419136 \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{76}}$$

(42)

If $\infty=3$

$$\zeta(76) \approx 1.0000000000000000000013234889808489908309451025094498968432376...$$

$$\zeta(76) = 1.0000000000000000000013234889808489908309451025094498968432382...$$

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

If $m=39$

$$\zeta(78) = 302231454903657293676544 \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{78}}$$

(43)

If $\infty=3$

$$\zeta(78) \approx 1.00000000000000000000033087224502121715889469563843144048092764881...$$

$$\zeta(78) = 1.00000000000000000000033087224502121715889469563843144048092764894...$$

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

If $m=40$

$$\zeta(80) = 1208925819614629174706176 \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{80}}$$

(44)

If $\infty=3$

$$\zeta(80) \approx 1.00000000000000000000008271806125530344036711056167440724040096808...$$

$$\zeta(80) = 1.00000000000000000000008271806125530344036711056167440724040096811...$$
\( \zeta(82) \approx 1.00000000000000000000000516987882845643132010133216635549... \\
\zeta(82) = 1.00000000000000000000000516987882845643132010133216635551... \\
\infty=2 \) seemed to be the limit of the calculator.

If \( m=42 \)

\[
\zeta(84) = \frac{19342813113834066795298816}{19342813113834066795298815} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{84}}
\]

If \( \infty=2 \)

\[
\zeta(84) \approx 1.0000000000000000000000000516987882845643132010133216635549... \\
\zeta(84) = 1.0000000000000000000000000516987882845643132010133216635551... \\
\infty=2 \) seemed to be the limit of the calculator.

If \( m=43 \)

\[
\zeta(86) = \frac{77371252455336267181195264}{77371252455336267181195263} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{86}}
\]

If \( \infty=2 \)

\[
\zeta(86) \approx 1.00000000000000000000000000129246970711410667003811261183318645... \\
\zeta(86) = 1.00000000000000000000000000129246970711410667003811261183318653... \\
\infty=2 \) seemed to be the limit of the calculator.

If \( m=44 \)

\[
\zeta(88) = \frac{309485009821345068724781056}{309485009821345068724781055} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{88}}
\]

If \( \infty=2 \)

\[
\zeta(88) \approx 1.000000000000000000000000000003231174267785265386134814118026657386... \\
\zeta(88) = 1.000000000000000000000000000003231174267785265386134814118026657417... \\
\infty=2 \) seemed to be the limit of the calculator.

If \( m=45 \)

\[
\zeta(90) = \frac{1237940039285380274899124224}{1237940039285380274899124223} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{90}}
\]
If $\infty=2$
\[ \zeta(90) \approx 1.00000000000000000000000008077935669463162033158738186340899727... \]
\[ \zeta(90) = 1.00000000000000000000000008077935669463162033158738186340899739... \]
$\infty=2$ seemed to be the limit of the calculator.

If $m=46$
\[ \zeta(92) = \frac{4951760157141521099596496896}{4951760157141521099596496895} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{92}} \] (50)

If $\infty=2$
\[ \zeta(92) \approx 1.0000000000000000000000000020194839173657903491587626465673047513... \]
\[ \zeta(92) = 1.0000000000000000000000000020194839173657903491587626465673047518... \]
$\infty=2$ seemed to be the limit of the calculator.

If $m=47$
\[ \zeta(94) = \frac{19807040628566084398385987584}{19807040628566084398385987583} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{94}} \] (51)

If $\infty=2$
\[ \zeta(94) \approx 1.0000000000000000000000000050487097934144756960847711725486604358... \]
\[ \zeta(94) = 1.0000000000000000000000000050487097934144756960847711725486604360... \]

If $m=48$
\[ \zeta(96) = \frac{79228162514264337593543950336}{79228162514264337593543950335} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{96}} \] (52)

If $\infty=2$
\[ \zeta(96) \approx 1.0000000000000000000000000012621774483536189043753999660777114871055... \]
\[ \zeta(96) = 1.0000000000000000000000000012621774483536189043753999660777114871063... \]

If $m=49$
\[ \zeta(98) = \frac{316912650057057350374175801344}{316912650057057350374175801343} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{98}} \] (53)

If $\infty=2$
\[ \zeta(98) \approx 1.0000000000000000000000000031554436208840472391098412184847972814339... \]
\[ \zeta(98) = 1.0000000000000000000000000031554436208840472391098412184847972814371... \]

If $m=50$
\[ \zeta(100) = \frac{1267650600228229401496703205376}{1267650600228229401496703205375} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{100}} \] (54)
If $\infty=2$
\(\zeta(100) \approx 1.000000000000000000000000000000078886090522101180735205378276604136878949...\)
\(\zeta(100) = 1.000000000000000000000000000000078886090522101180735205378276604136878962...

If $m=51$
\[\zeta(102) = \frac{5070602400912917605986812821504}{5070602400912917605986812821503} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{102}} \tag{55}\]

If $\infty=2$
\(\zeta(102) \approx 1.0000000000000000000000000000000197212263052529515685238321521390998847333...\)
\(\zeta(102) = 1.0000000000000000000000000000000197212263052529515685238321521390998847384...

If $m=52$
\[\zeta(104) = \frac{20282409603651670423947251286016}{20282409603651670423947251286015} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{104}} \tag{56}\]

If $\infty=2$
\(\zeta(104) \approx 1.00000000000000000000000000000004930380657631323786218766764477697562224575445...\)
\(\zeta(104) = 1.00000000000000000000000000000004930380657631323786218766764477697562224575445...

If $m=53$
\[\zeta(106) = \frac{81129638414606681695789005144064}{81129638414606681695789005144063} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{106}} \tag{57}\]

If $\infty=2$
\(\zeta(106) \approx 1.000000000000000000000000000000012325951644078309459...\)
\(\zeta(106) = 1.000000000000000000000000000000012325951644078309462...

If $m=54$
\[\zeta(108) = \frac{324518553658426726783156020576256}{324518553658426726783156020576255} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{108}} \tag{58}\]

If $\infty=2$
\(\zeta(108) \approx 1.0000000000000000000000000000000308148791101957736518530090955071302501052611...\)
\(\zeta(108) = 1.0000000000000000000000000000000308148791101957736518530090955071302501052643...

If $m=55$
\[\zeta(110) = \frac{1298074214633706907132624082305024}{1298074214633706907132624082305023} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{110}} \tag{59}\]

If $\infty=2$
\[ \zeta(110) \approx 1.00000000000000000000000000000000000770371977754894341255250754968951500863982293... \]
\[ \zeta(110) = 1.0000000000000000000000000000000000770371977754894341255250754968951500863982306... \]

If \( m=56 \)
\[ \zeta(112) = \frac{5192296858534827628530496329220096}{5192296858534827628530496329220095} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{112}} \]  

If \( \infty=2 \)
\[ \zeta(112) \approx 1.0000000000000000000000000000000001925929944387235853092488584734905444987336187... \]
\[ \zeta(112) = 1.000000000000000000000000000000001925929944387235853092488584734905444987336193... \]

If \( m=57 \)
\[ \zeta(114) = \frac{2076918743139310514121985316880384}{2076918743139310514121985316880383} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{114}} \]  

If \( \infty=2 \)
\[ \zeta(114) \approx 1.00000000000000000000000000000000048148248609680896326805122366289604787579935062... \]
\[ \zeta(114) = 1.0000000000000000000000000000000048148248609680896326805122366289604787579935083... \]

If \( m=58 \)
\[ \zeta(116) = \frac{83076749736557242056487941267521536}{83076749736557242056487941267521535} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{116}} \]  

If \( \infty=2 \)
\[ \zeta(116) \approx 1.000000000000000000000000000000000120370621524202240816449370080076202752955060823... \]
\[ \zeta(116) = 1.00000000000000000000000000000000120370621524202240816449370080076202752955060831... \]

If \( m=59 \)
\[ \zeta(118) = \frac{332306998946228968225951765070086144}{332306998946228968225951765070086143} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{118}} \]  

If \( \infty=2 \)
\[ \zeta(118) \approx 1.0000000000000000000000000000000003009265538105056020399... \]
\[ \zeta(118) = 1.0000000000000000000000000000000003009265538105056020404... \]

If \( m=60 \)
\[ \zeta(120) = \frac{1329227995784915872903807060280344576}{1329227995784915872903807060280344575} \sum_{n=1}^{\infty} \frac{1}{(2n-1)^{120}} \]  

If \( \infty=2 \)
\[ \zeta(120) \approx 1.00000000000000000000000000000000000752316384526264005100547863659914078685253127399... \]
\[ \zeta(120) = 1.000000000000000000000000000000752316384526264005100547863659914078685253127401\ldots \]

If \( m = 61 \)
\[ \zeta(122) = \frac{5316911983139663491615228241121378304}{5316911983139663491615228241121378303} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{122}} \]  
(65)

If \( \infty = 2 \)
\[ \zeta(122) \approx 1.00000000000000000000000000000018807909613156600127505967704863451341028548311174\ldots \]
\[ \zeta(122) = 1.00000000000000000000000000000018807909613156600127505967704863451341028548311180\ldots \]

If \( m = 62 \)
\[ \zeta(124) = \frac{1267647932558653966460912964485513216}{1267647932558653966460912964485513215} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{124}} \]  
(66)

If \( \infty = 2 \)
\[ \zeta(124) \approx 1.000000000000000000000000000000470197740328915003187563316103426276620602867128264\ldots \]
\[ \zeta(124) = 1.00000000000000000000000000000047019774032891500318756331610342627662060286712825\ldots \]

If \( m = 63 \)
\[ \zeta(126) = \frac{85070591730234615865843651857942052864}{85070591730234615865843651857942052863} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{126}} \]  
(67)

If \( \infty = 2 \)
\[ \zeta(126) \approx 1.0000000000000000000000000000001175494350822287507968812871905054572800292374147335\ldots \]
\[ \zeta(126) = 1.0000000000000000000000000000001175494350822287507968812871905054572800292374147344\ldots \]

If \( m = 64 \)
\[ \zeta(128) = \frac{340282366920938463463374607431768211456}{340282366920938463463374607431768211455} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{128}} \]  
(68)

If \( \infty = 2 \)
\[ \zeta(128) \approx 1.00000000000000000000000000000029387358770557187699219261593698463000750877801376431\ldots \]
\[ \zeta(128) = 1.00000000000000000000000000000029387358770557187699219261593698463000750877801376465\ldots \]
If $m=65$

\[
\zeta(130) = \frac{1361129467683753853498429727072845824}{1361129467683753853498429727072845823} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{130}}
\]  

(69)

If $\infty=2$

\[
\zeta(130) \approx 1.000000000000000000000000000000000000000734683969263969248046975979881822702829325792306253...
\]

$\zeta(130) = 1.00000000000000000000000000000000000000073468396926396924804697597988182270282932579230627...$

If $m=66$

\[
\zeta(132) = \frac{5444517870735015415413993718908291383296}{5444517870735015415413993718908291383295} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{132}}
\]  

(70)

If $\infty=2$

\[
\zeta(132) \approx 1.000000000000000000000000000000000000000183670992315982423120116131055966406980432175435258616...
\]

$\zeta(132) = 1.000000000000000000000000000000000000000183670992315982423120116131055966406980432175435258622...$

If $m=67$

\[
\zeta(134) = \frac{21778071482940061661655974875633165533184}{21778071482940061661655974875633165533183} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{134}}
\]  

(71)

If $\infty=2$

\[
\zeta(134) \approx 1.00000000000000000000000000000000000000004591774807899560578002888733135402954770839254613182646...
\]

$\zeta(134) = 1.00000000000000000000000000000000000000004591774807899560578002888733135402954770839254613182668...$

If $m=68$

\[
\zeta(136) = \frac{87112285931760246646623899502532662132736}{87112285931760246646623899502532662132735} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{136}}
\]  

(72)

If $\infty=2$

\[
\zeta(136) \approx 1.000000000000000000000000000000000000000011479437019748901445007205673656554920549666582563764422...
\]

$\zeta(136) = 1.000000000000000000000000000000000000000011479437019748901445007205673656554920549666582563764431...$
If \( m = 69 \)
\[
\zeta(138) = \frac{34844914372704098658649559801013648530944}{34844914372704098658649559801013648530943} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{138}}
\]  
(73)

If \( \infty = 2 \)
\[
\zeta(138) \approx 1.0000000000000000000000000000000000000000028698592549372253612517996229494773449843879127482537648...
\]
\[
\zeta(138) = 1.0000000000000000000000000000000000000000028698592549372253612517996229494773449843879127482537652...
\]

If \( m = 70 \)
\[
\zeta(140) = \frac{139379657490816394634598239204052594123776}{139379657490816394634598239204052594123776} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{140}}
\]  
(74)

If \( \infty = 2 \)
\[
\zeta(140) \approx 1.000000000000000000000000000000000000000000717464813734306340312949706241295849006872764517980168105...
\]
\[
\zeta(140) = 1.000000000000000000000000000000000000000000717464813734306340312949706241295849006872764517980168118...
\]

If \( m = 71 \)
\[
\zeta(142) = \frac{5575186299632655785383929568162090376495104}{5575186299632655785383929568162090376495103} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{142}}
\]  
(75)

If \( \infty = 2 \)
\[
\zeta(142) \approx 1.0000000000000000000000000000000000000000001793662034335765850782374043940935747806933535681450803114...
\]
\[
\zeta(142) = 1.0000000000000000000000000000000000000000001793662034335765850782374043940935747806933535681450803119...
\]

If \( m = 72 \)
\[
\zeta(144) = \frac{22300745198530623141535718272648361505980416}{22300745198530623141535718272648361505980415} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{144}}
\]  
(76)

If \( \infty = 2 \)
\[
\zeta(144) \approx 1.0000000000000000000000000000000000000000004484155085839414626955934863560890619839280557700
\]
If \( m = 73 \)
\[
\zeta(146) = \frac{89202980794122492566142873090593446023921664}{89202980794122492566142873090593446023921663} \sum_{n=1}^{\infty} \frac{1}{(2n - 1)^{146}} \tag{77}
\]
If \( \infty = 2 \)
\[
\zeta(146) \approx 1.000000000000000000000000000000000000000000011210387714598536567389836885245061272178142485817216754...
\]
\[
\zeta(146) = 1.000000000000000000000000000000000000000000011210387714598536567389836885245061272178142485817216754...
\]

The computer can’t give me any more precision.

2 Conclusion

The odd formula for \( \zeta \) 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

[6] T. takami.: \( \zeta(5), \zeta(7), \ldots, \zeta(331), \zeta(333) \) are Irrational Number, viXra:1909.0315