If the infinite summation 1+2+3+4... equals a number, zeta of 0 is zero.

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Abstract

This article contains a explication of why ,if the infinite summation $1+2+3+4+...$ as a number, the infinite summation $1+1+1+1+... = 0$.

keywords

word	definition
infinite summation	Summing infinite sequence of numbers
number	Quantity expressing a value

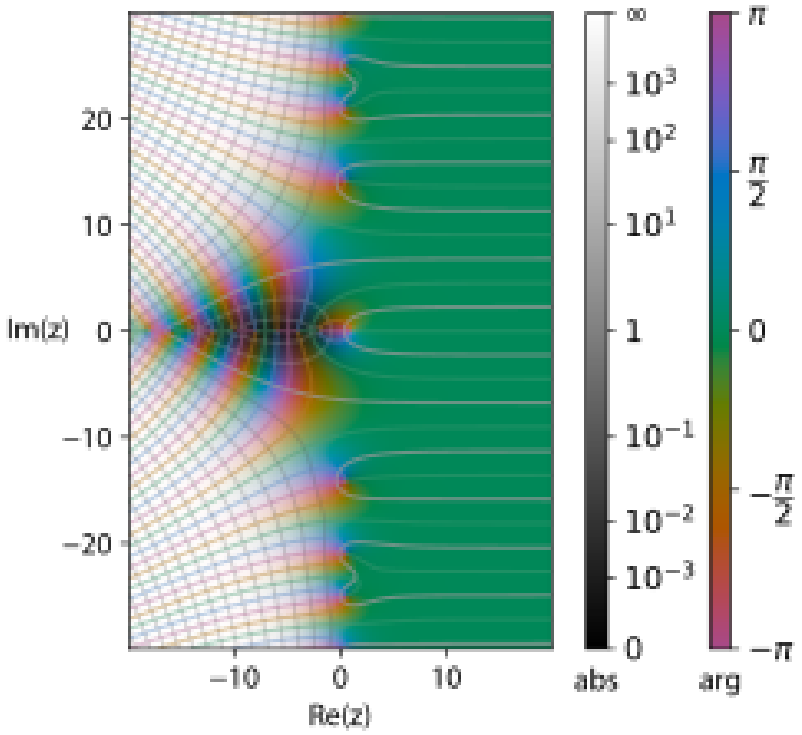
1 Introduction

In mathematics, an infinite series is the sum of an infinite sequence of terms. It is represented in the form:

$$S = a_1 + a_2 + a_3 + a_4 + \dots$$

where S is the sum of the series, and $S = a_1 + a_2 + a_3 + a_4 + \dots$,$\dots$ are the terms of the sequence. The terms can be real or complex numbers. The sum of the series is obtained by adding up an infinite number of terms. Mathematically, if S converges the reste of the serie $R_n = \lim_{n\to\infty} S_n - S_{n-1}$ should equal to 0.

2 The infinite sum $1+2+3+4+\ldots$ converges implies that $1+1+1+1+\ldots=0$



The remainder of a convergent series R_n converges to 0 if the series converges to a number. Assuming that the series $\zeta(-1)$converges, then its remainder series $\zeta(0)$ must converge to 0. At the n-th iteration of $\zeta(-1)$, the value of the series is $n+1=\sum_{k=0}^{n}1$ this serie is the reste of $\zeta(-1)$, the. and then as a conclusion $\zeta(0)=0$.

3 Conclusion

Even in different universes, consistent mathematics applies universally. Mathematics is employed across diverse fields, such as economics, computer science, and physics, despite distinct case studies, demonstrating its universal applicability.

References

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Série(mathématiques): https://fr.wikipedia.org/wiki/S%C3%A9rie_(math%C3%A9matiques) $1+2+3+4+$: https://fr.wikipedia.org/wiki/1_%2B_2_%2B_3_%2B_4_%2B_%E2%8B%AF