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 proof of the implication between the consideration of the infinite summation $1 + 2 + 3 + 4 + ...$ as a number, and 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

The Riemann zeta function holds a central position in analytic number theory and finds applications in diverse fields, including physics, probability theory, and applied statistics.

Originating from Leonhard Euler's exploration of real numbers in the early 18th century, the Riemann zeta function underwent significant development when Bernhard Riemann expanded its definition to complex variables in his 1859 article, "On the Number of Primes Less Than a Given Magnitude." Riemann not only demonstrated its meromorphic continuation and functional equation but also established a crucial link between the function's zeros and the distribution of prime numbers. Within this seminal work, the Riemann hypothesis was introduced—an unresolved conjecture regarding the distribution of complex zeros of the Riemann zeta function, widely regarded as one of the most significant unsolved problems in pure mathematics.

2 Infinite Sum implication Proof

we suppose that

$$1 + 2 + 3 + 4 + ... = a \in \mathbb{K}, \mathbb{K} = \mathbb{R} \vee \mathbb{C}$$

So :

$$0 + 1 + 2 + 3 + 4 + ... = 0 + a = a$$

and also:

$$1 + 2 + 3 + 4 + ... = a$$

$$-$$

$$1 + 0 + 0 + 0 + ... = 1$$

equals:

$$0 + 2 + 3 + 4 + ... = a - 1$$

and:

$$0 + 1 + 2 + 3 + 4 + ... = a$$

So:

$$0 + 2 + 3 + 4 + ... = a - 1$$

$$-$$

$$0 + 1 + 2 + 3 + 4 + ... = a$$

equals:

$$0 + 1 + 1 + 1 + ... = -1$$

And then :

$$0 + 1 + 1 + 1 + ... = -1$$

$$+$$

$$1 + 0 + 0 + 0 + ... = 1$$

equals:

$$1 + 1 + 1 + 1 + ... = 0$$

3 Conclusion

In conclusion, the Zeta of Zero is Zero $\zeta(0) = \sum_{n=1}^{\infty} \frac{1}{n^0} = \sum_{n=1}^{\infty} 1$. The Conclusion is logical In Physics Calculations We Can't have an infinite energy.

References

Riemann zeta: https://en.wikipedia.org/wiki/Riemann_zeta_function
infinite series formula: https://byjus.com/infinite-series-formula/
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