geometric series

geometric a series

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a geometric series is a series summing the terms of an infinite geometric sequence, in which the ratio of consecutive terms is constant

The geometric a series

$$\sum_{n=1}^{\infty} ar^{n-1} = a + ar + ar^2 + \cdots$$

is convergent if $|r| < 1$ and its sum is

$$\sum_{n=1}^{\infty} ar^{n-1} = \frac{a}{r-1} \qquad |r| < 1$$

If $|r| > 1$ the series is divergent.

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