How do you calculate the natural logarithm of the gamma function in Excel?

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The natural logarithm of the gamma function can be calculated in Excel by using the "LN" function, which stands for natural logarithm. First, select a cell where you want the result to appear. Then, type "=LN(" followed by the value or cell reference of the gamma function. Finally, close the bracket and press enter to calculate the natural logarithm. This function can be useful in a variety of mathematical and statistical calculations.

This article describes the formula syntax and usage of the **GAMMALN** function in Microsoft Excel.

Description

Returns the natural logarithm of the gamma function, Γ(x).

Syntax

GAMMALN(x)

The GAMMALN function syntax has the following arguments:

X Required. The value for which you want to calculate GAMMALN.

Remarks

If x is nonnumeric, GAMMALN returns the #VALUE! error value.

If x ≤ 0, GAMMALN returns the #NUM! error value.

The number e raised to the GAMMALN(i) power, where i is an integer, returns the same result as (i - 1)!.

GAMMALN is calculated as follows:

where:

$$f(x) = \begin{cases} 0 & \text{if } x < 0 \\ x & \text{if } 0 \le x \le 1 \\ 1 & \text{if } x > 1 \end{cases}$$