# How can I use the GAMMALN.PRECISE function in Excel?

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The GAMMALN.PRECISE function is a mathematical function available in Microsoft Excel that allows users to calculate the natural logarithm of the gamma function for a given number. This function can be used to accurately compute the logarithm of large numbers, avoiding potential rounding errors that may occur with the regular GAMMALN function. To use the GAMMALN.PRECISE function, the user simply needs to input the desired number as the function's argument and the result will be returned. This function can be particularly useful in financial and statistical analysis, as well as in other mathematical calculations requiring precise and accurate results.

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

## Description

Returns the natural logarithm of the gamma function, $\Gamma(x)$.

## Syntax

GAMMALN.PRECISE(x)

The GAMMALN.PRECISE function syntax has the following arguments:

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

## Remarks

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

If $x \leq 0$, GAMMALN.PRECISE returns the #NUM! error value.

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

GAMMALN.PRECISE is calculated as follows:

GAMMALN.PRECISE = $LN(\Gamma(x))$

where:

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