

GAMMALN function - The function returns the natural logarithm of the gamma function, ? (x) in Excel

GAMMALN: The function returns the natural logarithm of the gamma function, ? (x). Syntax: GAMMALN (x)

The following article introduces you to the **GAMMALN** function - one of the functions in the statistical function group is very popular in Excel.

Hàm GAMMALN

Description: The function returns the natural logarithm of the gamma function, ? (x).

Syntax: GAMMALN (x)

Inside:

- **x:** The value you want to calculate the natural logarithm of the gamma function, ? (x). .

Attention:

- If the function's **x** value is not numeric -> the function returns the **#VALUE!** Error value

- If **x ? 0** the function returns the **#NUM!** Error value

- The exponent **e of GAMMALN (i), i** is an integer, returns the same result as (i - 1) !.

- The function is calculated as follows:

$$[GAMMALN = LN\left(\left\{ \Gamma \left(x \right) \right\} \right)]$$

Inside:

$$\left(\left\{ \Gamma \left(x \right) \right\} \right) = \left\{ \begin{array} { * { 20 } { c } } \end{array} \right\}$$

$$\left\{ 0 \right\} \left\{ \text{if} \right\}, x > 0$$

$$\left\{ x \right\} \left\{ \text{if} \right\}, 0 \leq x \leq 1$$

$$\left\{ 1 \right\} \left\{ \text{if} \right\}, x > 1$$

end {array}} right..)

For example:

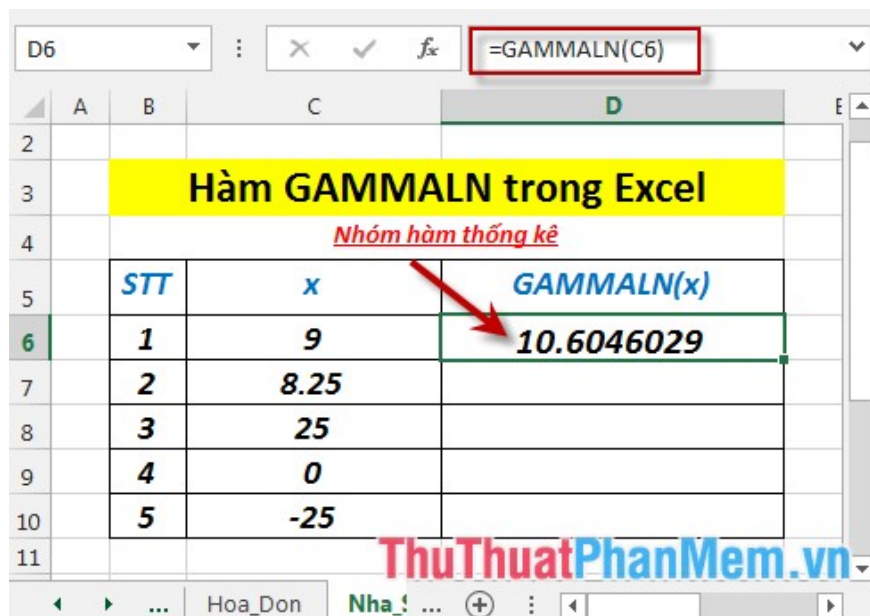
Calculate the natural logarithm value of the gamma function, $\Gamma(x)$ of the values x in the following data table:

STT	x	GAMMALN(x)
1	9	
2	8.25	
3	25	?
4	0	
5	-25	

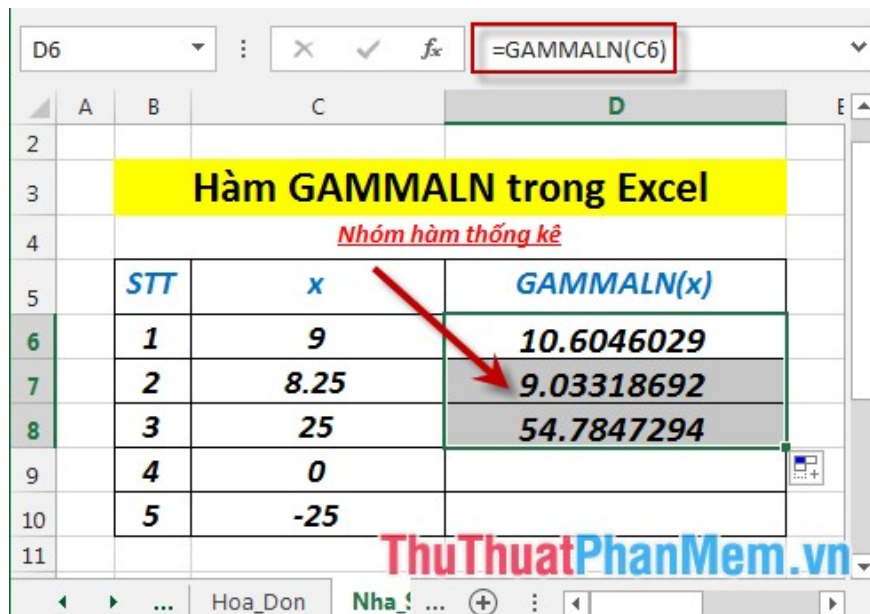
- In the cell to calculate enter the formula : = GAMMALN (C6)

STT	x	GAMMALN(x)
1	9	=GAMMALN(C6)
2	8.25	
3	25	
4	0	
5	-25	

- Press **Enter** -> the natural logarithmic value of the gamma function, $\Gamma(x)$ is:



- Similarly copying the formula for the remaining values ??results:



Where $x \neq 0$ -> the function returns the #NUM! Error value

STT	x	GAMMALN(x)
1	9	10.6046029
2	8.25	9.03318692
3	25	54.7847294
4	0	#NUM!
5	-25	#NUM!

Above are instructions and some specific examples when using the **GAMMALN** function in Excel.

Good luck!

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