

LOGEST - The function returns an array of data that describes an exponential curve that fits the data given in Excel

LOGEST: The function returns the data array that describes the exponential curve that fits the given data. - The equation of the curve is: $y = b * m^x$ or $y = (b * (m1^{x1}) * (m2^{x2}) * \dots)$ Syntax: LOGEST (known_ys, [known_xs], [const], [stats])

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

Hàm LOGEST

Description: The function returns the array of data describing the exponential curve in accordance with the given data.

- The equation of the curve is:

$$y = b * m^x$$

or

$$y = (b * (m1^{x1}) * (m2^{x2}) * \dots)$$

Syntax: LOGEST (known_y's, [known_x's], [const], [stats])

Inside:

- **known_y's** : The set of known y values ??in the relationship $y = b * m^x$, is a required parameter.

+ If **known_y's** is in a single column or row -> each **known_y's** column or row is interpreted as a separate variable.

- **known_x's**: The set of known x values ??in the relationship $y = b * m^x$, is a required parameter.

+ **known_x's** may include 1 or more sets of variables.

+ If **known_x's** is omitted -> it is assumed to be an array of the same size as **known_y's**

- **const**: The logical value determining the value of the constant b, is an optional value including the following values:

+ **const = True** or ignore -> **b** is calculated normally.

+ **const = False** or ignore -> **b = 1** and m are adjusted such that: $y = m \wedge x$.

- **stats**: The logical value that determines the return value with additional regression statistics, is an optional value that includes:

+ **stats = True** -> returns additional regression statistics.

+ **stats = False** -> returns the coefficient m and the constant b .

Attention:

- The more similar the graph to the exponential curve -> the better the calculated straight line is for your data.

- Where there is only 1 independent variable x -> find the value of the intersection y according to the following formula:

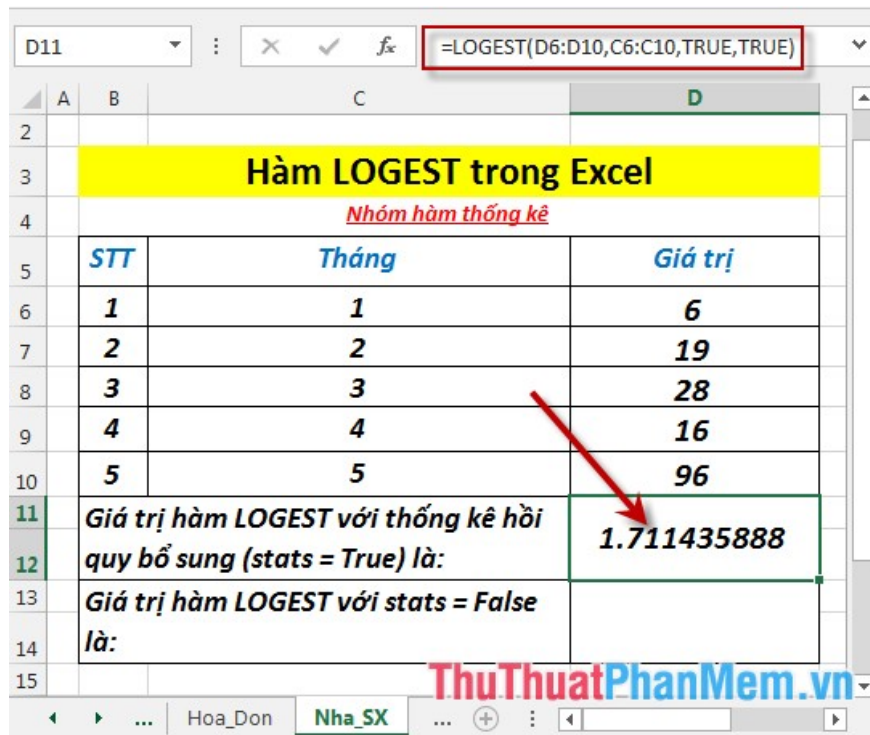
+ Crossing Y (b): **INDEX (LOGEST (known_y's, known_x's), 2)**

- When entering array constants, you must use commas to separate.

- If the values ??y are outside the values ??used to define the equation -> the regression equation may be invalid.

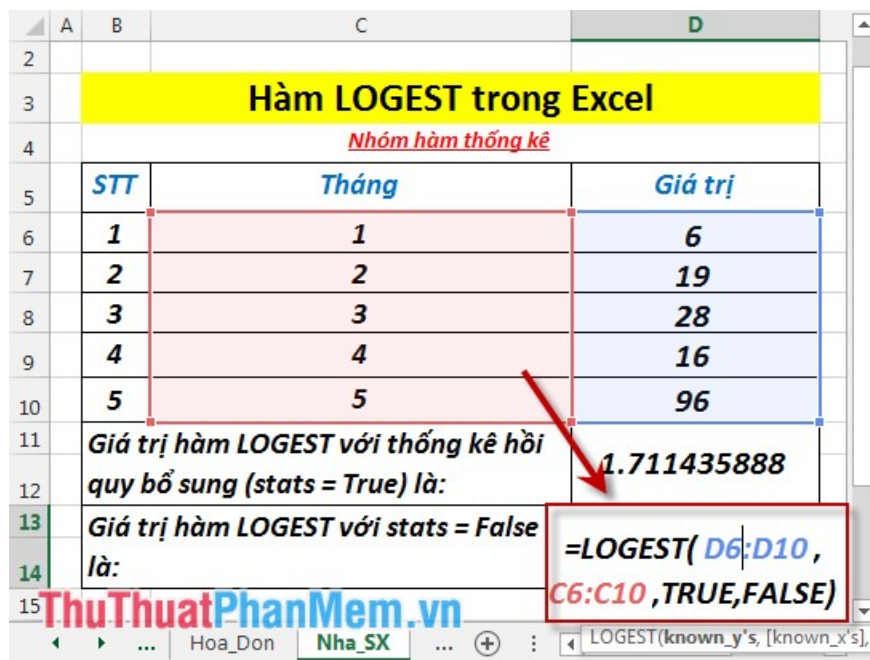
For example:

Find the value as described in the data table below:



2. Calculate the value of the LOGEST function with stats = False.

- In the cell to calculate enter the formula: = LOGEST (D6: D10, C6: C10, TRUE, FALSE)



- Press **Enter** -> return value is:

D13 : `=LOGEST(D6:D10,C6:C10,TRUE,FALSE)`

Hàm LOGEST trong Excel		
<i>Nhóm hàm thống kê</i>		
STT	Tháng	Giá trị
1	1	6
2	2	19
3	3	28
4	4	16
5	5	96
Giá trị hàm LOGEST với thống kê hồi quy bổ sung (stats = True) là:		1.711435888
Giá trị hàm LOGEST với stats = False là:		1.711435888

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

Good luck!

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