How do I use the T.DIST function in Excel?

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The T.DIST function in Excel is used to calculate the probability density of a Student's t-distribution. This distribution is commonly used in statistical analysis to determine the likelihood of a specific data point falling within a certain range. To use the T.DIST function, you must input the required parameters, including the value, degrees of freedom, and cumulative probability. The function will then return the probability density for the given input. This can be helpful in analyzing data and making informed decisions. Additionally, the T.DIST function can be used in conjunction with other statistical functions in Excel to perform more complex calculations. Overall, understanding how to use the T.DIST function in Excel can greatly assist in statistical analysis and decision-making.

Returns the Student's left-tailed t-distribution. The t-distribution is used in the hypothesis testing of small sample data sets. Use this function in place of a table of critical values for the t-distribution.

Syntax

T.DIST(x,deg_freedom, cumulative)

The T.DIST function syntax has the following arguments:

X Required. The numeric value at which to evaluate the distribution

Deg_freedom Required. An integer indicating the number of degrees of freedom.

Cumulative Required. A logical value that determines the form of the function. If cumulative is TRUE, T.DIST returns the cumulative distribution function; if FALSE, it returns the probability density function.

Remarks

If any argument is nonnumeric, T.DIST returns the #VALUE! error value.

If deg_freedom < 1, T.DIST returns an error value. Deg_freedom needs to be at least 1.

Example

Copy the example data in the following table, and paste it in cell A1 of a new Excel worksheet. For formulas to show results, select them, press F2, and then press Enter. If you need to, you can adjust the column widths to see all the data.

Formula	Description	Result
=T.DIST(60,1,TRUE)	Student's left-tailed t-distribution for 60, returned as the cumulative distribution function, using 1 degree of freedom.	0.99469533
=T.DIST(8,3,FALSE)	Student's left-tailed t-distribution for 8, returned as the probability density function, using 3 degrees of freedom.	0.00073691

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