

How can I use the NORMSINV function in Excel to find the inverse of a specified probability in a normal distribution?

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The NORMSINV function in Excel is a useful tool to find the inverse of a specified probability in a normal distribution. This function allows users to input a probability and returns the corresponding value on the standard normal distribution curve. This can be helpful in various statistical calculations, such as determining the value at a certain confidence level or finding the cutoff point for a certain probability. By using the NORMSINV function, users can easily and accurately determine the inverse of a specified probability in a normal distribution, saving time and effort in manual calculations. This feature makes Excel a reliable and efficient tool for statistical analysis and decision making.

Returns the inverse of the standard normal cumulative distribution. The distribution has a mean of zero and a standard deviation of one.

Important: This function has been replaced with one or more new functions that may provide improved accuracy and whose names better reflect their usage. Although this function is still available for backward compatibility, you should consider using the new functions from now on, because this function may not be available in future versions of Excel.

For more information about the new function, see [NORM.S.INV function](#).

Syntax

NORMSINV(probability)

The NORMSINV function syntax has the following argument:

Probability Required. A probability corresponding to the normal distribution.

Remarks

If Probability is nonnumeric, NORMSINV returns the #VALUE! error value.

If Probability ≤ 0 or if Probability ≥ 1 , NORMSINV returns the #NUM! error value.

Given a value for Probability, NORMSINV seeks that value z such that $\text{NORMSDIST}(z) = \text{probability}$. Thus, precision of NORMSINV depends on precision of NORMSDIST. NORMSINV uses an iterative search technique. If the search has not converged after 100 iterations, the function returns the #N/A error value.

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
=NORMSINV(0.9088)	Inverse of the standard normal cumulative distribution, with a probability of 0.9088.	1.3334

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