How can I use the CHIINV function in Excel?

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The CHIINV function in Excel is a statistical function that allows users to calculate the inverse of the chi-square cumulative distribution. This function is commonly used in statistical analysis to determine the critical value for a given level of confidence. To use the CHIINV function, users must input the probability and degrees of freedom, which can be found using the CHIDIST function. The result will be the critical value for the specified probability and degrees of freedom, which can be used in further statistical calculations. This function is useful for researchers, analysts, and anyone working with statistical data in Excel.

Returns the inverse of the right-tailed probability of the chi-squared distribution. If probability = CHIDIST(x,...), then CHIINV(probability,...) = x. Use this function to compare observed results with expected ones in order to decide whether your original hypothesis is valid.

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 functions, see CHISQ.INV function and CHISQ.INV.RT function.

Syntax

CHIINV(probability,deg_freedom)

The CHIINV function syntax has the following arguments:

Probability Required. A probability associated with the chi-squared distribution.

Deg_freedom Required. The number of degrees of freedom.

Remarks

If either argument is nonnumeric, CHIINV returns the #VALUE! error value.

If probability < 0 or probability > 1, CHIINV returns the #NUM! error value.

If deg_freedom is not an integer, it is truncated.

If deg_freedom < 1, CHIINV returns the #NUM! error value.

Given a value for probability, CHIINV seeks that value x such that CHIDIST(x, deg_freedom) = probability. Thus, precision of CHIINV depends on precision of CHIDIST. CHIINV 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.

Data	**Description**	
0.050001	Probability associated with the chi-squared distribution	
10	Degrees of freedom	
Formula	**Description**	**Result**
=CHIINV(A2,A3)	Inverse of the one-tailed probability of the chi-squared distribution.	18.306973