How To use the GAMMA.INV function in Excel?

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The GAMMA.INV function in Microsoft Excel is a useful tool for calculating the inverse gamma for a given set of data. To use this function, you need to enter the data and probability value in an empty cell, followed by the alpha value for the gamma distribution. You can also use the "Insert Function" button to access this function. Please note that this function is only available in Excel 2010 or later versions, and an alternative function can be used for older versions.

This article describes the formula syntax and usage of the **GAMMA.INV** function in Microsoft Excel.

Returns the inverse of the gamma cumulative distribution. If p = GAMMA.DIST(x,...), then GAMMA.INV(p,...) = x. You can use this function to study a variable whose distribution may be skewed.

Syntax

GAMMA.INV(probability,alpha,beta)

The GAMMA.INV function syntax has the following arguments:

Probability Required. The probability associated with the gamma distribution.
Alpha Required. A parameter to the distribution.
Beta Required. A parameter to the distribution. If beta = 1, GAMMA.INV returns the standard gamma distribution.

Remarks

If any argument is text, GAMMA.INV returns the #VALUE! error value.
If probability < 0 or probability > 1, GAMMA.INV returns the #NUM! error value.
If alpha ≤ 0 or if beta ≤ 0, GAMMA.INV returns the #NUM! error value.

Given a value for probability, GAMMA.INV seeks that value x such that GAMMA.DIST(x, alpha, beta, TRUE) = probability. Thus, precision of GAMMA.INV depends on precision of GAMMA.DIST. GAMMA.INV uses an iterative search technique. If the search has not converged after 64 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	
0.068094	Probability associated with the gamma distribution	
9	Alpha parameter to the distribution	
2	Beta parameter to the distribution	
Formula	**Description**	**Result**
=GAMMA.INV(A2,A3,A4)	Inverse of the gamma cumulative distribution for the probability, alpha, and beta arguments in A2, A3, and A4.	10.0000112