How can I use the CRITBINOM function in Excel to calculate the critical value for a binomial distribution?

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June 29, 2024

The CRITBINOM function in Excel is a useful tool for calculating the critical value for a binomial distribution. This function takes in the number of trials, the probability of success, and the desired significance level as inputs, and returns the critical value for that particular distribution. This critical value can be used in hypothesis testing to determine the rejection or acceptance of a certain hypothesis. By using the CRITBINOM function, users can easily and accurately calculate the critical value for a binomial distribution, making it a valuable tool for statistical analysis in Excel.

Returns the smallest value for which the cumulative binomial distribution is greater than or equal to a criterion value. Use this function for quality assurance applications. For example, use CRITBINOM to determine the greatest number of defective parts that are allowed to come off an assembly line run without rejecting the entire lot.

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 BINOM.INV function.

Syntax

CRITBINOM(trials,probability_s,alpha)

The CRITBINOM function syntax has the following arguments:

Trials Required. The number of Bernoulli trials.

Probability_s Required. The probability of a success on each trial.

Alpha Required. The criterion value.

Remarks

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

If trials is not an integer, it is truncated.

If trials < 0, CRITBINOM returns the #NUM! error value.

If probability_s is <= 0 or probability_s => 1, CRITBINOM returns the #NUM! error value.

If alpha <= 0 or alpha => 1, CRITBINOM returns the #NUM! 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	
6	Number of Bernoulli trials	
0.5	Probability of a success on each trial	
0.75	Criterion value	
Formula	**Description**	**Result**
=CRITBINOM(A2,A3,A4)	Smallest value for which the cumulative binomial distribution is greater than or equal to a criterion value	4