How can I use the BINOM.DIST.RANGE function in Excel?

Authored by

stats writer

June 28, 2024

The BINOM.DIST.RANGE function in Excel is a statistical function that allows users to calculate the probability of a certain number of successes occurring within a given range of trials in a binomial distribution. It is useful for analyzing and predicting outcomes in scenarios where there are only two possible outcomes, such as success or failure. To use this function, users must specify the number of trials, probability of success, and the range of successes they are interested in. The function will then return the probability of the specified range of successes occurring. This can be helpful in a variety of fields, including finance, economics, and science, to make informed decisions based on probability analysis.

This article describes the formula syntax and usage of the **BINOM.DIST.RANGE** function in Microsoft Excel.

Description

Returns the probability of a trial result using a binomial distribution.

Syntax

BINOM.DIST.RANGE(trials,probability_s,number_s,)

The BINOM.DIST.RANGE function syntax has the following arguments.

Trials Required. The number of independent trials. Must be greater than or equal to 0.

Probability_s Required. The probability of success in each trial. Must be greater than or equal to 0 and less than or equal to 1.

Number_s Required. The number of successes in trials. Must be greater than or equal to 0 and less than or equal to Trials.

Number_s2 Optional. If provided, returns the probability that the number of successful trials will fall between Number_s and number_s2. Must be greater than or equal to Number_s and less than or equal to Trials.

Remarks

If any arguments are outside of their constraints, BINOM.DIST.RANGE returns the #NUM! error value.

If any arguments are non-numeric values, BINOM.DIST.RANGE returns the #VALUE! error value.

The following equation is used:

$$\sum_{k=S}^{S2} \binom{N}{k} p^k (1-p)^{N-k}$$

In the equation above, N is Trials, p is Probability_s, s is Number_s, s2 is Number_s2, and k is the iteration variable.

Numeric arguments are truncated to integers.