

How to Use a Binomial Distribution Table to Calculate Probabilities

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The Binomial Distribution Table is a helpful tool in statistics for calculating the probability of observing a specific number of successes in a series of independent trials, each with two possible outcomes (success or failure). Here's how it works:

What it shows:

The table lists probabilities for different numbers of successes ("r") out of a total number of trials ("n"), given a specific probability of success ("p") for each trial.

It covers a range of possible "n" and "p" values, but you might need to refer to more comprehensive tables or use software for less common combinations.

How to use it:**Identify the parameters of your situation:**

n: The number of trials (e.g., flipping a coin 10 times).

p: The probability of success in each trial (e.g., getting heads with a fair coin, which is $p = 0.5$).

Locate the table for your "n" value. Typically, separate tables exist for different n values.

Find the row with your desired "r" (number of successes).

Find the column with your "p" value. Look for the closest probability if an exact match isn't available.

Read the value at the intersection of the row and column. This represents the probability of observing "r" successes in "n" trials with probability "p" for each trial.

