

How can I create a Binomial Distribution Graph in Excel?

Authored by
stats writer

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To create a binomial distribution graph in Excel, follow these steps:

1. Open a new Excel workbook and enter the values for the binomial distribution in a column.
2. Next, in an adjacent column, enter the corresponding probabilities for each value.
3. Select the two columns and click on the "Insert" tab.
4. In the "Charts" section, click on the "Insert Column or Bar Chart" button.
5. From the drop-down menu, select "Clustered Column Chart."
6. You will now have a bar graph showing the values and probabilities.
7. Right-click on the graph and select "Change Series Chart Type."
8. In the "All Charts" tab, select "Line" as the chart type.
9. You will now have a line graph showing the binomial distribution.
10. To add labels to the graph, right-click on the graph and select "Add Data Labels."
11. You can also customize the graph by adding titles, changing the axis labels, and adjusting the formatting.
12. Finally, you can save the graph by clicking on the "File" tab and selecting "Save As."

By following these steps, you can easily create a binomial distribution graph in Excel to visualize and analyze your data.

Create a Binomial Distribution Graph in Excel

The is used to describe the probability of obtaining k successes in n binomial experiments.

A binomial experiment is an experiment that has the following properties:

The experiment consists of n repeated trials. Each trial has only two possible outcomes. The probability of success, denoted p , is the same for each trial. Each trial is independent.

If a X follows a binomial distribution, then the probability that $X = k$ successes can be found by the following formula:

$$P(X=k) = nCk * p^k * (1-p)^{n-k}$$

where:

n : number of trials
 k : number of successes
 p : probability of success on a given trial
 nCk : the number of ways to obtain k successes in n trials

The following example explains how to create a binomial distribution graph in Excel.

Example: Binomial Distribution Graph in Excel

To create a binomial distribution graph, we need to first decide on a value for n (number of trials) and p (probability of success in a given trial):

	A	B	C	D	E	F
1	n (number of trials)	8				
2	p (prob. of success on given trial)	0.5				
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
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21						
22						

Next, we need to create a column for each possible number of successes:

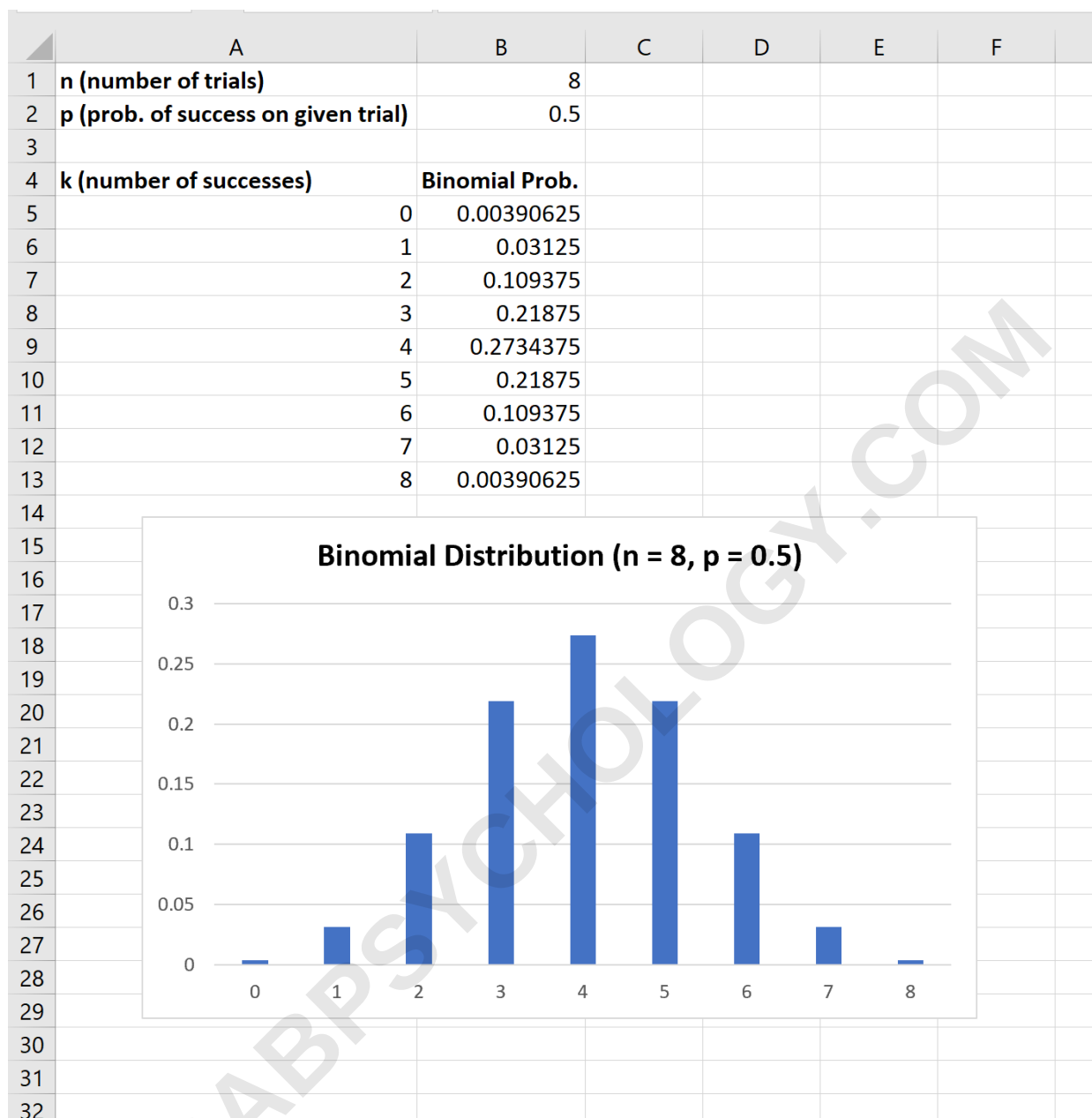
	A	B	C	D	E
1	n (number of trials)	8			
2	p (prob. of success on given trial)	0.5			
3					
4	k (number of successes)				
5	0				
6	1				
7	2				
8	3				
9	4				
10	5				
11	6				
12	7				
13	8				
14					
15					
16					
17					
18					
19					
20					
21					
22					

Next, we can use the **BINOM.DIST()** function to calculate the binomial probability for the first number of successes:

	A	B	C	D	E	F
1	n (number of trials)	8				
2	p (prob. of success on given trial)	0.5				
3						
4	k (number of successes)	Binomial Prob.				
5	0	0.00390625	=BINOM.DIST(A5, \$B\$1, \$B\$2, FALSE)			
6	1					
7	2					
8	3					
9	4					
10	5					
11	6					
12	7					
13	8					
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

We can then copy and paste this formula to the remaining cells in column B:

	A	B	C	D	E
1	n (number of trials)	8			
2	p (prob. of success on given trial)	0.5			
3					
4	k (number of successes)	Binomial Prob.			
5	0	0.00390625			
6	1	0.03125			
7	2	0.109375			
8	3	0.21875			
9	4	0.2734375			
10	5	0.21875			
11	6	0.109375			
12	7	0.03125			
13	8	0.00390625			
14					
15					
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22					



The x-axis of the graph shows the number of successes in 8 trials and the y-axis shows the corresponding probability of that many successes.

Note that if you change the value for either n or p , the graph will automatically change to reflect the new

probabilities.

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