

# How do I calculate cumulative frequency in Excel?

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## RECOMMENDED CITATION

stats writer (2024). *How do I calculate cumulative frequency in Excel?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=138572>

The process of calculating cumulative frequency in Excel involves using a series of mathematical functions and data manipulation techniques to determine the total number of observations that fall below a certain value in a given dataset. This can be achieved by creating a cumulative frequency table or graph, which displays the running total of frequencies in a dataset. Excel provides various tools and formulas to help users easily calculate and visualize cumulative frequency, making it a convenient tool for data analysis and interpretation. With the proper knowledge and understanding of Excel, users can efficiently calculate cumulative frequency and gain valuable insights from their data.

## Calculate Cumulative Frequency in Excel

**A frequency table is a table that displays information about frequencies. Frequencies simply tell us how many times a certain event has occurred.**

**For example, the following table shows how many items a shop sold in different price ranges in a given week:**

Item Price	Frequency
\$1 - \$10	20
\$11 - \$20	21
\$21 - \$30	13
\$31 - \$40	8
\$41 - \$50	4

**The first column displays the price class and the second column displays the frequency of that class.**

**It's also possible to calculate the cumulative frequency for each class, which is simply the sum of the**

## frequencies up to a certain class.

Item Price	Frequency	Cumulative Frequency
\$1 - \$10	20	20
\$11 - \$20	21	41
\$21 - \$30	13	54
\$31 - \$40	8	62
\$41 - \$50	4	66

For example, the first cumulative frequency is simply equal to the first frequency of 20.

The second cumulative frequency is the sum of the first two frequencies:  $20 + 21 = 41$ .

The third cumulative frequency is the sum of the first three frequencies:  $20 + 21 + 13 = 54$ .

And so on.

The following example illustrates how to find cumulative frequencies in Excel.

Example: Cumulative Frequency in Excel

First, we will enter the class and the frequency in columns A and B:

	A	B	C	D	E
1	<b>Item Price</b>	<b>Frequency</b>			
2	\$1 - \$10	20			
3	\$11 - \$20	21			
4	\$21 - \$30	13			
5	\$31 - \$40	8			
6	\$41 - \$50	4			
7					
8					
9					
10					
11					
12					
13					
14					

**Next, we will calculate the cumulative frequency of each class in column C.**

**In the image below, Column D shows the formulas we used:**

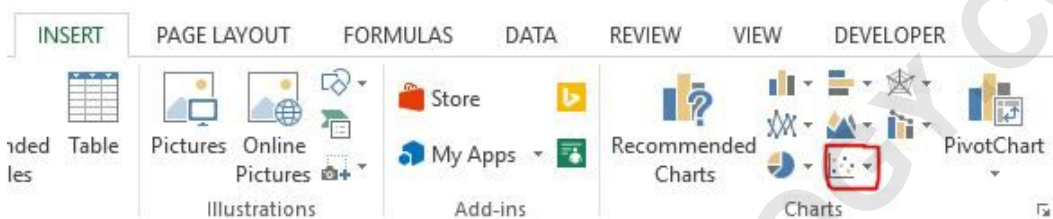
	A	B	C	D	E
1	<b>Item Price</b>	<b>Frequency</b>	<b>Cumulative Frequency</b>		
2	\$1 - \$10	20	20	=SUM(\$B\$2:B2)	
3	\$11 - \$20	21	41	=SUM(\$B\$2:B3)	
4	\$21 - \$30	13	54	=SUM(\$B\$2:B4)	
5	\$31 - \$40	8	62	=SUM(\$B\$2:B5)	
6	\$41 - \$50	4	66	=SUM(\$B\$2:B6)	
7					
8					
9					
10					
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15					
16					
17					
18					

**To create the ogive chart, hold down CTRL and highlight columns A and C.**

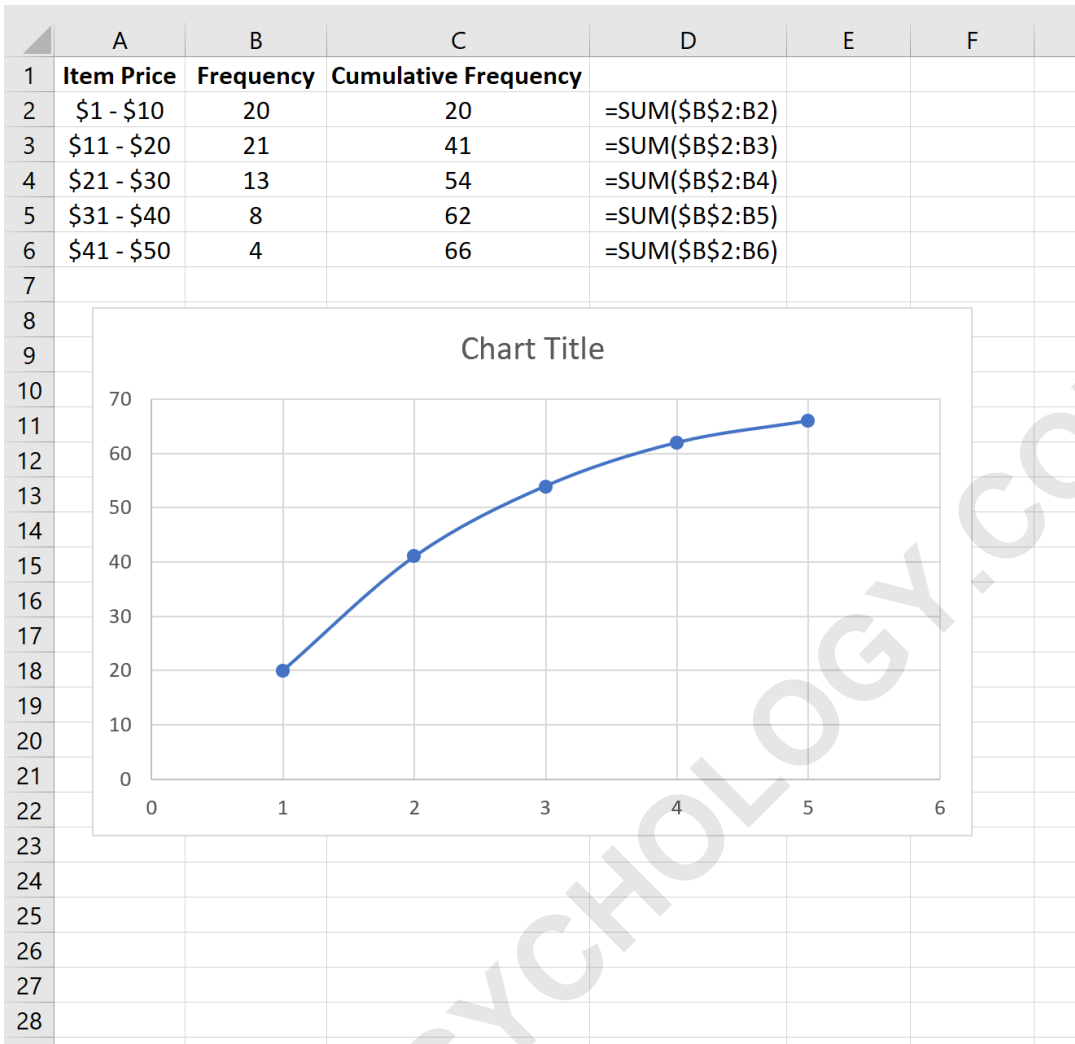
	A	B	C	D	E
1	<b>Item Price</b>	<b>Frequency</b>	<b>Cumulative Frequency</b>		
2	\$1 - \$10	20	20	=SUM(\$B\$2:B2)	
3	\$11 - \$20	21	41	=SUM(\$B\$2:B3)	
4	\$21 - \$30	13	54	=SUM(\$B\$2:B4)	
5	\$31 - \$40	8	62	=SUM(\$B\$2:B5)	
6	\$41 - \$50	4	66	=SUM(\$B\$2:B6)	
7					
8					
9					
10					
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14					
15					
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18					

Then go to the Charts group in the Insert tab and click the first chart type in Insert Column or Bar Chart:

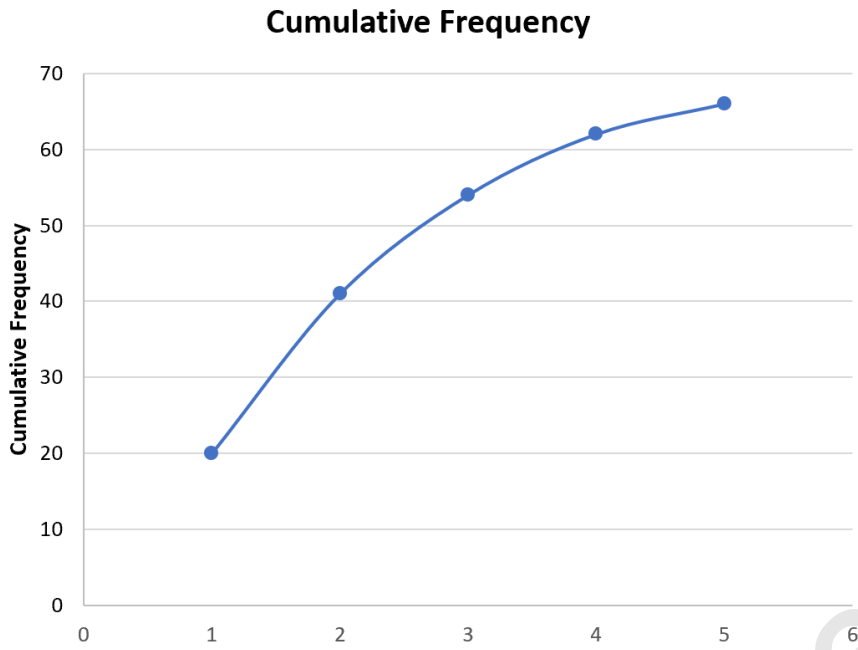
Along the top ribbon in Excel, go to the Insert tab, then the Charts group. Click Scatter Chart, then click Scatter with Straight Lines and Markers.



This will automatically produce the following ogive graph:



**Feel free to modify the axes and the title to make the graph more aesthetically pleasing:**



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