

# How do I calculate 2 standard deviations in Excel?

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## RECOMMENDED CITATION

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Calculating 2 standard deviations in Excel involves using the STDEV.S function, which calculates the standard deviation based on a sample of data. First, enter your data into a column or row in an Excel spreadsheet. Then, use the STDEV.S function, selecting the range of cells containing your data as the input. This will give you the standard deviation of your data set. To calculate 2 standard deviations, simply multiply the result by 2. This will give you the range within which 95% of your data points fall. This method can be used to analyze and compare data sets, helping to identify outliers and patterns. With the use of formulas and built-in functions, Excel makes it easy to perform statistical calculations and analyze data.

## Calculate 2 Standard Deviations in Excel

**You can use the following formula to calculate the value of two standard deviations in Excel:**

**=2\*STDEV(A2:A14)**

**This particular example calculates the value of two standard deviations for the values in the cell range A2:A14.**

**The reason you might be interested in calculating this value is because in statistics the Empirical Rule states that for a given dataset with a normal distribution, about 95% of all data values fall within two standard deviations of the mean.**

**The following example shows how to calculate two standard deviations in Excel in practice.**

## Example: Calculate 2 Standard Deviations in Excel

Suppose we have the following dataset in Excel:

	A	B	C	D	E
1	<b>Dataset</b>				
2	68				
3	70				
4	70				
5	71				
6	72				
7	74				
8	74				
9	75				
10	79				
11	81				
12	85				
13	90				
14	93				
15					
16					
17					

We can use the following formulas in various cells to calculate the mean, the value of two standard deviations, and the values that fall two standard deviations below and above the mean:

D1: =AVERAGE(A2:A14)  
D2: =2\*STDEV(A2:A14)  
D3: =D1-D2  
D4:=D1+D2

The following screenshot shows how to use these

## formulas in practice:

	A	B	C	D	E
1	<b>Dataset</b>		<b>Mean</b>	77.07692	=AVERAGE(A2:A14)
2	68		<b>2 Std Dev.</b>	16.03042	=2*STDEV(A2:A14)
3	70		<b>Mean - 2 Std. Dev.</b>	61.0465	=D1-D2
4	70		<b>Mean + 2 Std. Dev</b>	93.10734	=D1+D2
5	71				
6	72				
7	74				
8	74				
9	75				
10	79				
11	81				
12	85				
13	90				
14	93				
15					
16					
17					

From the output we can see:

The mean value of the dataset is 77.07. The value of two standard deviations is 16.03. The value that falls two standard deviations below the mean is 61.0465. The value that falls two standard deviations above the mean is 93.1073.

Assuming that this sample of data is representative of the larger population it came from and that the values in

**this population are normally distributed, we would assume that 95% of all data values in this population fall between 61.0465 and 93.1073.**

**Note: If you would like to instead calculate three standard deviations, simply replace the 2 in the formula in cell E2 with a 3.**

**The following tutorials explain how to perform other common tasks in Excel:**

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