How to calculate mean in Excel

Arithmetic mean, also referred to as **average**, is probably the measure you are most familiar with. The mean is calculated by adding up a group of numbers and then dividing the sum by the count of those numbers.

For example, to calculate the mean of numbers {1, 2, 2, 3, 4, 6}, you add them up, and then divide the sum by 6, which yields 3: (1+2+2+3+4+6)/6=3.

In Microsoft Excel, the mean can be calculated by using one of the following functions:

- AVERAGE- returns an average of numbers.
- AVERAGEA - returns an average of cells with any data (numbers, Boolean and text values).
- AVERAGEIF - finds an average of numbers based on a single criterion.
- AVERAGEIFS - finds an average of numbers based on multiple criteria.

For the in-depth tutorials, please follow the above links. To get a conceptual idea of how these functions work, consider the following example.

In a sales report (please see the screenshot below), supposing you want to get the average of values in cells C2:C8. For this, use this simple formula:

```
=AVERAGE(C2:C8)
```

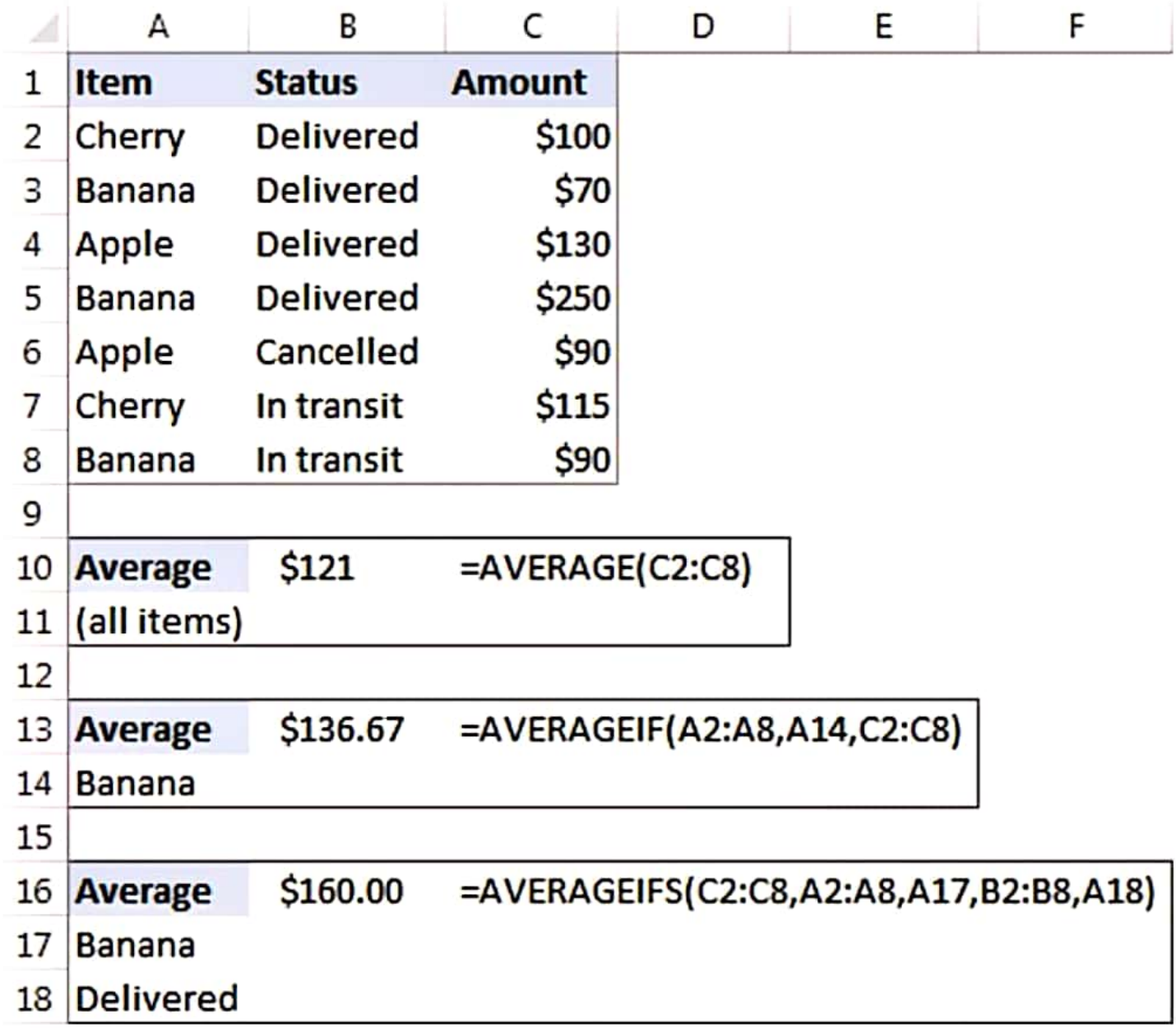
To get the average of only "Banana" sales, use an AVERAGEIF formula:

```
=AVERAGEIF(A2:A8, "Banana", C2:C8)
```

To calculate the mean based on 2 conditions, say, the average of "Banana" sales with the status "Delivered", use AVERAGEIFS:

```
=AVERAGEIFS(C2:C8,A2:A8, "Banana", B2:B8,
"Delivered")
```

You can also enter your conditions in separate cells, and reference those cells in your formulas, like this:



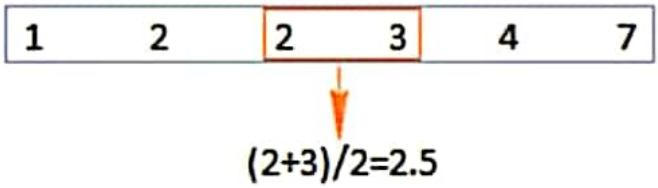
	A	B	C	D	E	F
1	**Item**	**Status**	**Amount**			
2	Cherry	Delivered	$100			
3	Banana	Delivered	$70			
4	Apple	Delivered	$130			
5	Banana	Delivered	$250			
6	Apple	Cancelled	$90			
7	Cherry	In transit	$115			
8	Banana	In transit	$90			
9						
10	**Average**	$121	=AVERAGE(C2:C8)			
11	(all items)					
12						
13	**Average**	$136.67	=AVERAGEIF(A2:A8,A14,C2:C8)			
14	Banana					
15						
16	**Average**	$160.00	=AVERAGEIFS(C2:C8,A2:A8,A17,B2:B8,A18)			
17	Banana					
18	Delivered					

What is median?

In simple terms, the **median** is the middle value in a group of numbers, separating the higher half of values from the lower half. More technically, it is the center element of the data set arranged in order of magnitude.

In a data set with an odd number of values, the median is the middle element. If there are an even number of values, the median is the average of the middle two.

For example, in the group of values {1, 2, 3, 4, 7} the median is 3. In the dataset {1, 2, 2, 3, 4, 7} the median is 2.5.



Compared to the arithmetic mean, the median is less susceptible to outliers (extremely high or low values) and therefore it is the preferred measures of central tendency for an asymmetrical distribution. A classic example is a median salary, which gives a better idea of how much people typically earn than an average salary because the latter may be skewed by a small number of abnormally high or low salaries. For more information,

Excel - formula examples

MEDIAN is one of the most straightforward and easy-to-use functions in Excel. However, there are still some tricks, not obvious to beginners. Say, how do you calculate a median based on a condition? The answer is in one of the following examples.

Excel Median formula

For starters, let's see how to use the classic Median formula in Excel to find the middle value in a set of numbers. In a sample sales report (please see the screenshot below), supposing you want to find the median of numbers in cells C2:C8. The formula would be as simple as this:

```
=MEDIAN(C2:C8)
```

	A	B	C	D	E
1	**Item**	**Order date**	**Amount**		
2	Cherry	20-Apr	$100		
3	Banana	25-Apr	$70		
4	Apple	26-Apr	$130		
5	Banana	1-May	$250		
6	Apple	1-May	$90		
7	Cherry	3-May	$115		
8	Banana	6-May	$90		
9	Banana	10-May	$350		
10	Apple	18-May	$210		
11					
12	**Median amount**		$115	=MEDIAN(C2:C10)	
13	**Median date**		1-May	=MEDIAN(B2:B10)	

As shown in the screenshot above, the Excel Median formula works for numbers and dates equally well since in terms of Excel dates are also numbers.

How to calculate mode in Excel

Mode is the most frequently occurring value in the dataset. While the mean and median require some calculations, a mode value can be found simply by counting the number of times each value occurs.

For example, the mode of the set of values {1, 2, 2, 3, 4, 6} is 2. In Microsoft Excel, you can calculate a mode by using the function of the same name, the MODE function. For our sample data set, the formula goes as follows:

```
=MODE(C2:C8)
```

	A	B	C	D
1	**Item**	**Status**	**Amount**	
2	Banana	Delivered	$70	
3	Apple	Cancelled	$90	
4	Banana	In transit	$90	
5	Cherry	Delivered	$100	
6	Cherry	In transit	$115	
7	Apple	Delivered	$130	
8	Banana	Delivered	$250	
9				
10	**Mode**	$90	=MODE(C2:C8)	

In situations when there are two or more modes in your data set, the Excel MODE function will return the **lowest mode**.