



# Finding Averages Using Excel

## MEDIAN

The MEDIAN is one type of average that we use when we are looking at data. To find the MEDIAN the data are ORDERED (either from smallest to largest or vice versa) and then the MIDDLE VALUE is found. This average is used when the data is not symmetrical.

You can use Excel to find the MEDIAN

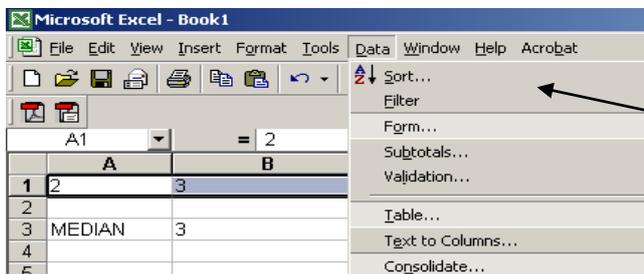
### Method 1

Copy the data into a new spreadsheet. (Use the Copy and Paste icons)

Highlight the data.

Click on DATA (from the MENU BAR) then SORT, then OK.

The data is now in order, find the middle value in the list and this is your median. If there are two values at the centre then you find the mean of the two values. This is then the median of the data.



This is what you need to do

### Method 2

Using a similar example.

Click in the cell you want to put the MEDIAN into.

Type the formula =MEDIAN(A1:E1)

(This means find the median of the data from cell A1 to cell E1)

Press Enter

	A	B	C	D	E
1	2	3	3	6	10
2					
3	MEDIAN	=MEDIAN(A1:E1)			
4					

This is what it should look like

### Remember

The = sign tells Excel that you are about to do a calculation or enter a formula. Make sure you label your work so that you know what the data means.



# Finding Averages Using Excel

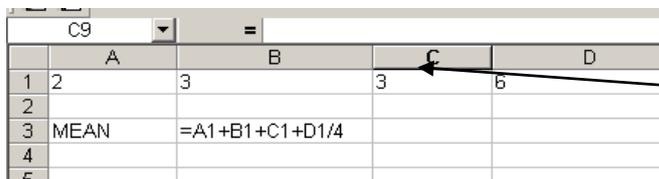
## MEAN

The MEAN is one type of average that we use when we are looking at data. To find the MEAN we ADD together all the data and then DIVIDE by the of data values. This average is used when the distribution of the data is symmetrical.

You can use Excel to find the MEAN

### Method 1

Say you want to find the mean of the data in cells A1,B1,C1, and D1  
Click on the cell you want to put the MEAN into (label it!)  
Type the formula  $= (A1+B1+C1+D1)/4$  or  $= \text{Sum}(A1:D1)/4$   
Press ENTER



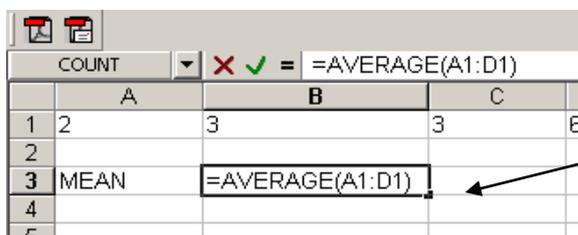
A screenshot of an Excel spreadsheet. The formula bar at the top shows the formula  $= (A1+B1+C1+D1)/4$ . The spreadsheet has columns A, B, C, and D, and rows 1 through 5. Row 1 contains the values 2, 3, 3, and 6. Row 3 is labeled 'MEAN' in column A, and the formula  $=A1+B1+C1+D1/4$  is entered in column B. An arrow points from a text box to cell C1.

	A	B	C	D
1	2	3	3	6
2				
3	MEAN	$=A1+B1+C1+D1/4$		
4				
5				

This is what it should look like

### Method 2

Using the same example.  
Click on the cell you want to put the MEAN into.  
Type the formula  $= \text{AVERAGE}(A1:D1)$   
(This means find the average of the data from cell A1 to cell D1)  
Press Enter



A screenshot of an Excel spreadsheet. The formula bar at the top shows the formula  $= \text{AVERAGE}(A1:D1)$ . The spreadsheet has columns A, B, C, and D, and rows 1 through 5. Row 1 contains the values 2, 3, 3, and 6. Row 3 is labeled 'MEAN' in column A, and the formula  $= \text{AVERAGE}(A1:D1)$  is entered in column B. An arrow points from a text box to cell B3.

	A	B	C	D
1	2	3	3	6
2				
3	MEAN	$= \text{AVERAGE}(A1:D1)$		
4				
5				

This is what it should look like

### REMEMBER:

- Excel uses the symbol / to mean divide.
- The = sign tells Excel you are about to do a calculation or enter a formula.
- Make sure you label your work so that you know what the data means.



# Finding Averages Using Excel

## MODE

The MODE is the value that appears the most times in a set of data.  
When finding the MODE you count the amount of times a number appears,  
the number with the highest value is the MODE.

You can use Excel to find the MODE

### Method

To find the MODE of the data in cells A1,B1,C1,D1 and E1

Click in the cell you want to put the MODE into.

Type the formula =MODE(A1:E1)

(This means find the modal value of the data from cell A1 to E1)

Press Enter

	A	B	C	D	E
1	2	3	3	6	10
2					
3	MODE	=MODE(A1:E1)			
4					

This is what it should look like

### Remember

The = sign tells Excel that you are about to do a calculation or enter a formula.

Make sure you label your work so that you know what the data means.



# Finding Averages Using Excel

## RANGE

The RANGE describes the SPREAD of the data i.e. it is the DIFFERENCE between the LARGEST VALUE and the SMALLEST value in your data .  
You can look at this as:

$$\text{RANGE} = \text{MAXimum Value} - \text{MINimum Value}$$

You can use Excel to find the RANGE

### Method

To find the RANGE of the data in cells A1, B1, C1, D1 and E1

Click in the cell you want to put the RANGE into.

Type the formula =MAX(A1:E1) - MIN(A1:E1)

(This means find the maximum value from cells A1 to E1 and subtract the minimum value from cells A1 to E1)

Press Enter

	A	B	C	D	E
1	2	3	3	6	10
2					
3	RANGE	=MAX(A1:E1)-MIN(A1:E1)			
4					
5					
6					

This is what it should look like

### Remember

The = sign tells Excel that you are about to do a calculation or enter a formula.

Make sure you label your work so that you know what the data means.