

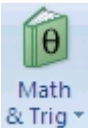
Functions: Subtotal

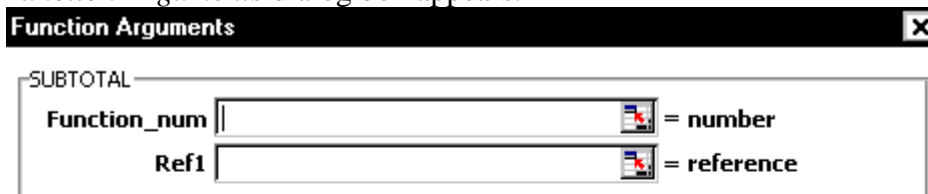
The *Subtotal* function allows you to set up a calculation in your worksheet. Then, by filtering the data, the same calculation is performed on subsets of your data. The *Subtotal* function ignores values in rows hidden by a filter. It can be used with Tables or any range of data.

Using the Subtotal Function

The *Subtotal* function is easily created with the *Function Arguments* dialog box. The first piece of information you will need is the function number. This determines what type of calculation will be performed.

1. Open the desired worksheet
2. Select the cell where you want the result of the function to appear
 NOTE: If you are filtering your worksheet, make sure that the selected cell is below your data. This allows you to see the results.
3. From the *Ribbon*, select the **Formulas** command tab

4. In the *Function Library* group, click **MATH & TRIG**  » select *Subtotal* the *Function Arguments* dialog box appears.



Returns a subtotal in a list or database.

Function_num: is the number 1 to 11 that specifies the summary function for the subtotal.



Formula result =

[Help on this function](#)

OK

Cancel

5. In the *Function_num* text box, type the number of the function you would like to perform
 HINT: For more information, refer to Function Numbers.

6. In the *Ref1* text box, type the range of cells to be analyzed
OR
 - a. Click **COLLAPSE DIALOG** 
 - b. Select the range of cells to include
 - c. Click **RESTORE DIALOG** 
7. Repeat step 6 for as many different cell ranges as necessary
NOTE: You may select up to 29 different fields to include in the subtotal.
8. Click **OK**:

The subtotal appears in the selected cell and the formula appears in the *Formula Bar*.


EXAMPLE: In the formula =SUBTOTAL(1,D2:D11), 1 designates the calculation from the *Function_num* text box as an average, and D2:D11 designates the cell range from the *Ref1* text box.

Using a Filter to Analyze Subsets

If you have applied the *Subtotal* function to a section of your worksheet you can see results for a specific category of information contained within that subtotal, you can hide rows by filtering the field. After filtering, the function will calculate with only the rows that are visible, allowing you to see customized results. For more information on filtering, refer to *Filtering Your Database*.

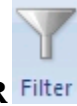
1. Select the row of column headings
2. From the *Ribbon*, select the **Data** command tab



3. In the *Sort & Filter* group, click **FILTER** 
Pull-down lists appear in each of the selected cells.

	A	B	C	D	E
1	Name	Years Experien	A	Class	Bon
2	Ada Jenson	Sort A to Z			10
3	Alice Ender	Sort Z to A			5
4	Andy North	Sort by Color			5
5	Barry Edson	Clear Filter From "Class"			10
6	Bob Jones	Filter by Color			10
7	Camille Sander	Text Filters			10
8	Celine Smith				5
9	Elias Jones				5
10	Nate Somners				10
11					
12					
13					
14					
15					

- From the desired pull-down list, select the desired option
EXAMPLE: If you wanted to find the average, age of sophomores, from the class cell's pull-down list, select *Sophomore*.
 The worksheet hides all other cells except those meeting the selected *Filter* criteria. The new average is shown in the same cell where the first subtotal appeared.



- To return to the unfiltered view, from the *Sort & Filter* group, click **FILTER**

Modifying the Subtotal Function

Once you perform one of the *Subtotal* calculations on your data, you can change the calculation at any time by modifying the existing function. This allows you to perform additional calculations on the same data.

- Select the cell where the *Subtotal* function is being performed the function appears in the *Formula Bar*.
- On the *Formula Bar*, change the *Function_num* value
HINT: Choose from the list of possible calculations.
- Press [**Enter**]

Function Numbers

The *Subtotal* function allows you to work several different calculations on your selected data. In order for the function to work correctly, you will need to use the number of the correct calculation when prompted.

#	Calculation	Description
1	AVERAGE	Adds all entries and then divides by the number of entries
2	COUNT	Counts the number of entries containing numbers
3	COUNTA	Counts the number of entries that are not blank (includes text entries)
4	MAX	Reports the highest number of all the entries
5	MIN	Reports the lowest number of all the entries
6	PRODUCT	Multiplies all the entries together
7	STDEV	Computes the standard deviation, assuming the selection is a sample of the entire population
8	STDEVP	Computes the standard deviation, assuming the selection is the entire population
9	SUM	Adds all entries together

10 VAR Computes the variance, assuming the selection is a sample of the entire population

11 VARP Computes the variance, assuming the selection is the entire population

An Example

The example below shows data about employees' time worked in particular pay periods. With this unfiltered data, the *Subtotal* function used at the bottom of the *Hours* column reflects the maximum number of hours worked by any employee.

Employee	PP Ending	Hours	Pay	Location
Justin	11/11/2006	79	\$671.50	Northwest
Sally	11/11/2006	84	\$714.00	Northwest
Steve	11/11/2006	45	\$382.50	Northwest
Ann	11/11/2006	15	\$127.50	East
Peter	11/11/2006	15	\$127.50	East
Steve	11/25/2006	36	\$306.00	East
Ann	11/25/2006	21	\$178.50	Northeast
Peter	11/25/2006	74	\$629.00	Northeast
Justin	11/25/2006	12	\$102.00	South
Sally	11/25/2006	34	\$289.00	South
Steve	12/9/2006	76	\$646.00	Northeast
Ann	12/9/2006	94	\$799.00	North
Justin	12/9/2006	79	\$671.50	North
Peter	12/9/2006	78	\$663.00	North
Sally	12/9/2006	25	\$212.50	Southeast
Ann	12/23/2006	35	\$297.50	Southeast
Justin	12/23/2006	16	\$136.00	Southeast
Peter	12/23/2006	86	\$731.00	West
Sally	12/23/2006	34	\$289.00	West
Steve	12/23/2006	18	\$153.00	West
		94		

The image below shows the results of filtering the data. After applying a filter so that only Justin's information is visible, the *Subtotal* function calculates the maximum hours that Justin worked.

Employ	PP Endin	Hours	Pay	Locatio
Justin	11/11/2006	79	\$671.50	Northwest
Justin	11/25/2006	12	\$102.00	South
Justin	12/9/2006	79	\$671.50	North
Justin	12/23/2006	16	\$136.00	Southeast
		79		

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