

Functions and Formulas

Definition:

A **function** is a built-in formula that performs a special calculation automatically. When entering functions, you must have an equal sign (=) first.

Functions appear in formulas in the following order:

- first:** the function name (uppercase or lowercase)
- second:** open parenthesis
- third:** the number, cell, or range of cells to be affected
- fourth:** closed parenthesis

A function may be used by itself, or in conjunction with other functions.

Excel provides functions that are used for statistical and financial analysis or for database operations:

- AVERAGE()** Averages values in a range of cells
- COUNT()** Counts all the non-blank cells in a range.
- MAX()** Indicates the highest value in a range of cells
- MIN()** Indicates the lowest value in a range of cells
- SUM()** Adds all values in a range of cells
- NOW()** Displays current date and time
- TODAY()** Displays current date

The data the functions require you to supply are called **arguments**. For example, in the formula

=MAX (A1:A5)


the range of cells is the argument.

The **Insert Function Button** lets you insert functions into formulas by selecting the formulas from a list. **AutoCalculate** automatically provides the **Average, Count, Count Nums, Max, Min or Sum** on the **Status Bar** for a selected range.

Subtotals

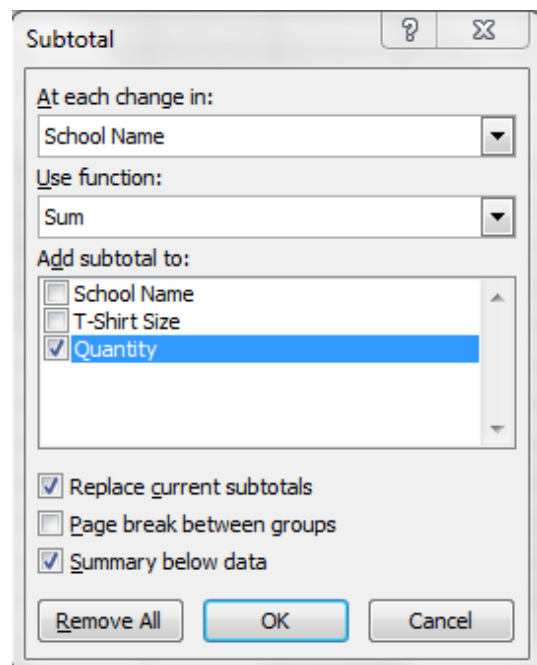
Consider the spreadsheet shown below. This spreadsheet shows a list of Homecoming T-Shirt orders, per size, per school. Someone has manually inserted rows and used the SUM function to total each quantity of sizes needed. A more efficient method would be to use the SUBTOTAL function. Fortunately, this function is readily available on the Data ribbon.

Outline symbols



	1	2	3	A	B	C
1				School Name	T-Shirt Size	Quantity
2				Airways Middle	Small	40
3				Airways Middle	Medium	65
4				Airways Middle	Large	90
5				Airways Middle Total		195
6				Brownsville Elementary	Small	50
7				Brownsville Elementary	Medium	65
8				Brownsville Elementary	Large	75
9				Brownsville Elementary Total		190
10				Craigmont High	Small	90
11				Craigmont High	Medium	150
12				Craigmont High	Large	300
13				Craigmont High Total		540
14				Grand Total		925
15						

When the SUBTOTAL function is used, you can use the outline options to expand or collapse the data. If you need to edit, remove, or add additional subtotals, simply click in the middle of the data, choose Data, Subtotals and modify accordingly.



The Subtotal dialog box is shown with the following settings:

- At each change in: School Name
- Use function: Sum
- Add subtotal to: School Name, T-Shirt Size, Quantity
- Replace current subtotals
- Page break between groups
- Summary below data

Buttons: Remove All, OK, Cancel

Charts and Chart Features

Excel 2010 offers several quick methods to assist you in building charts. When you click the **Insert Ribbon**, you will notice that there is a section for various types of charts, including the popular Pie and Bar charts.

To create charts, decide upon and then select the data that you wish to chart. Once the data is selected, go to the **Insert Ribbon**, select the type of chart that you want, and then review your Design and Format options. The data in the spreadsheet below yields the results of the chart as shown.

Senior Expenses	
Senior Dues	\$ 75.00
Prom	\$ 300.00
Memory Book	\$ 50.00
Senior Pictures	\$ 200.00
Senior Trip	\$ 500.00

