CHAPTER – 4

SPREAD SHEET

4. Introduction to Spreadsheets

- Microsoft Excel 2010 is the spreadsheet program in Microsoft Office 2010.
- A spreadsheet is a grid of rows and columns in which you enter text, numbers, and the results of calculations.
- In Excel, a computerized spreadsheet is called a worksheet. The file used to store worksheets is called a workbook.

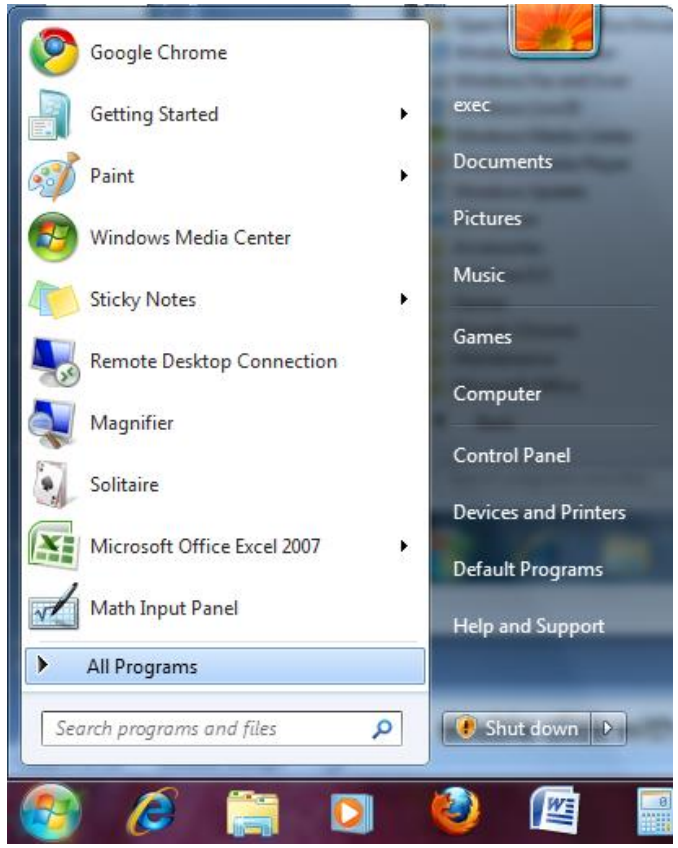
4.1 Objectives

The Reader will be able to understand the following :

- Elements of Spreadsheet
- Manipulation of Cells in MS Excel
- Function and Charts in MS Excel

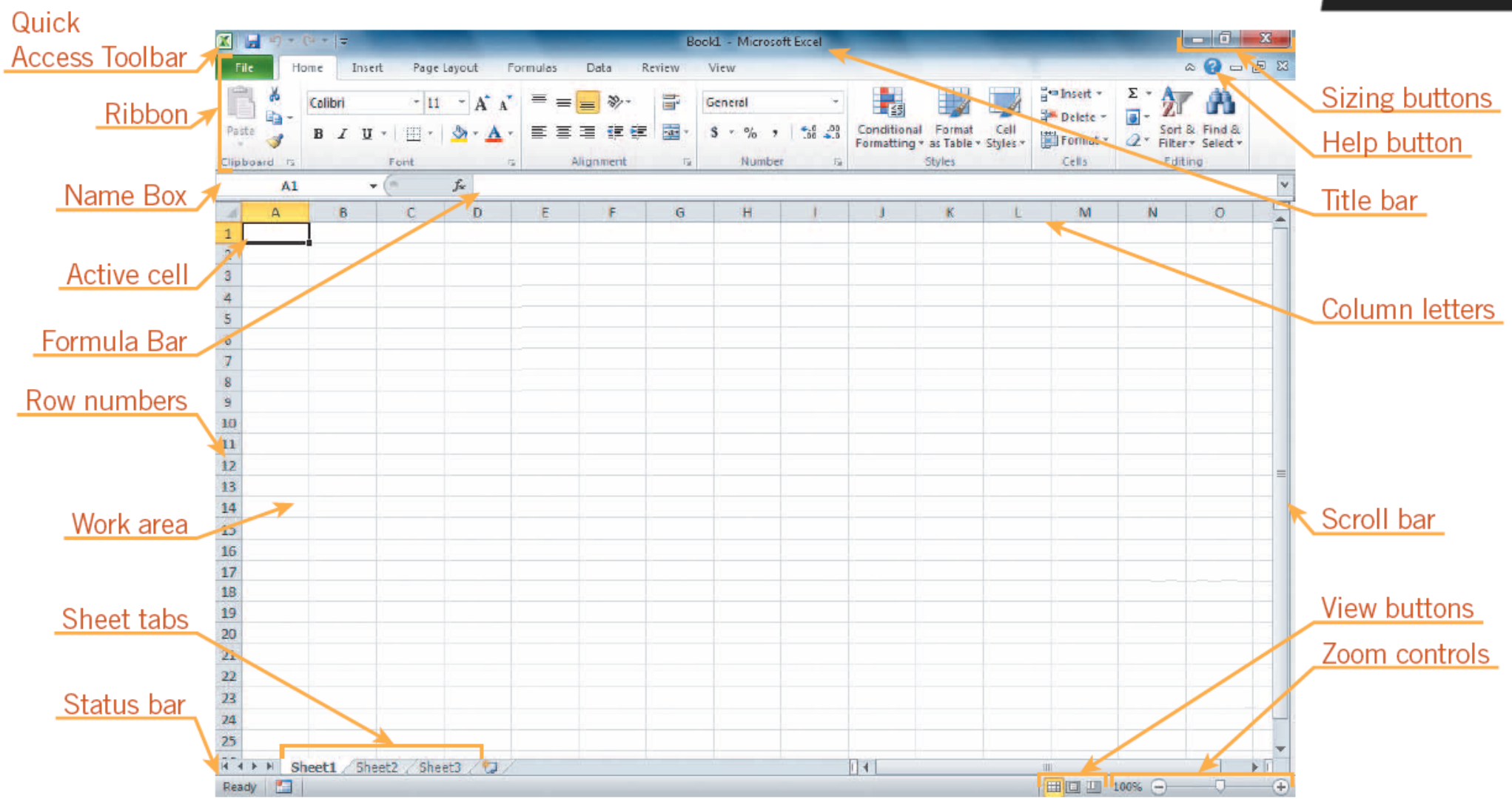
4.2 Elements of Electronic Spread Sheet

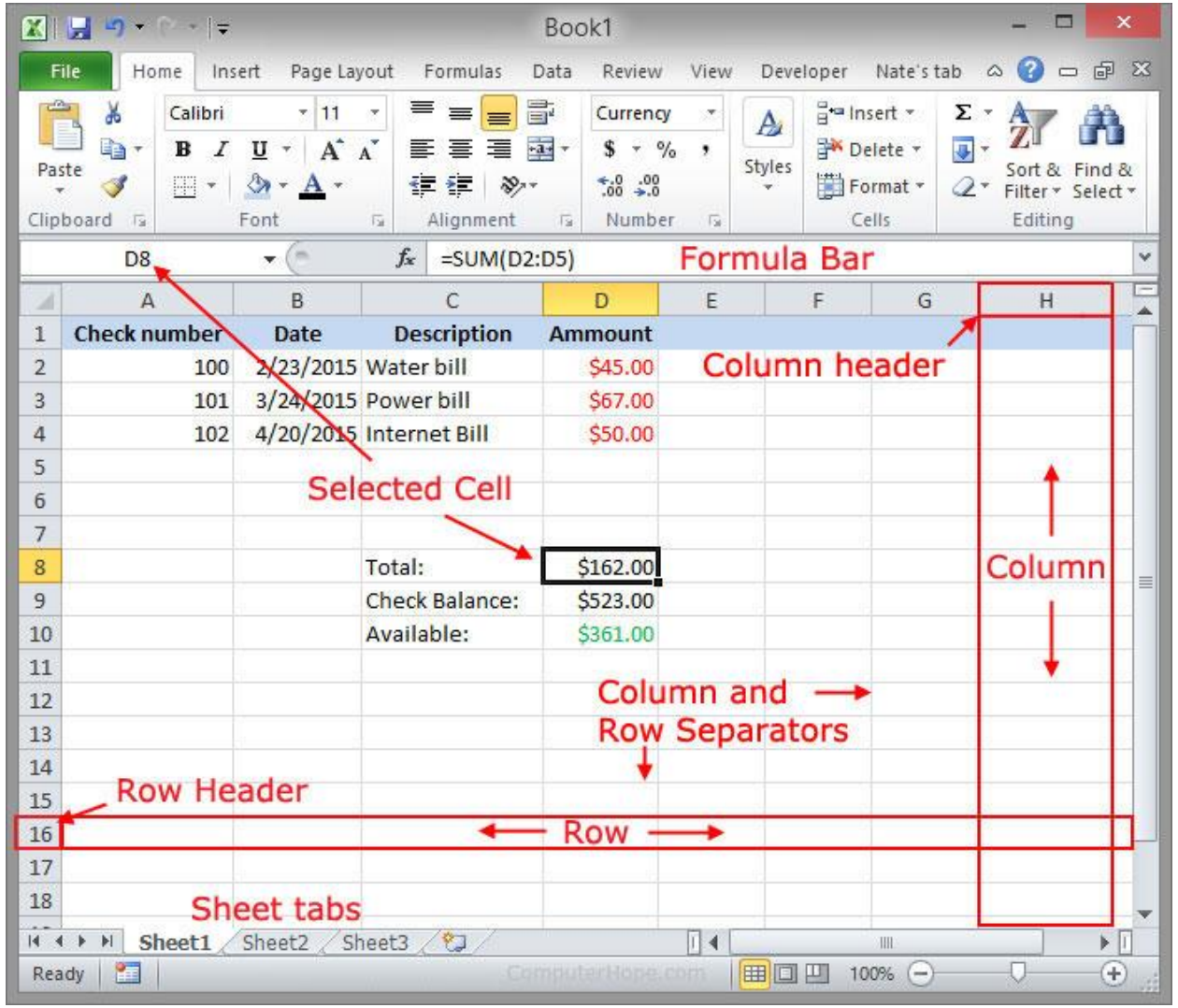
4.2.1 Opening of Spread Sheet



To open Excel, click the start button, point to All Programs, point to Microsoft Office, and then click Microsoft Office Excel 2010.

Excel program window





4.2.2 Cell Addressing

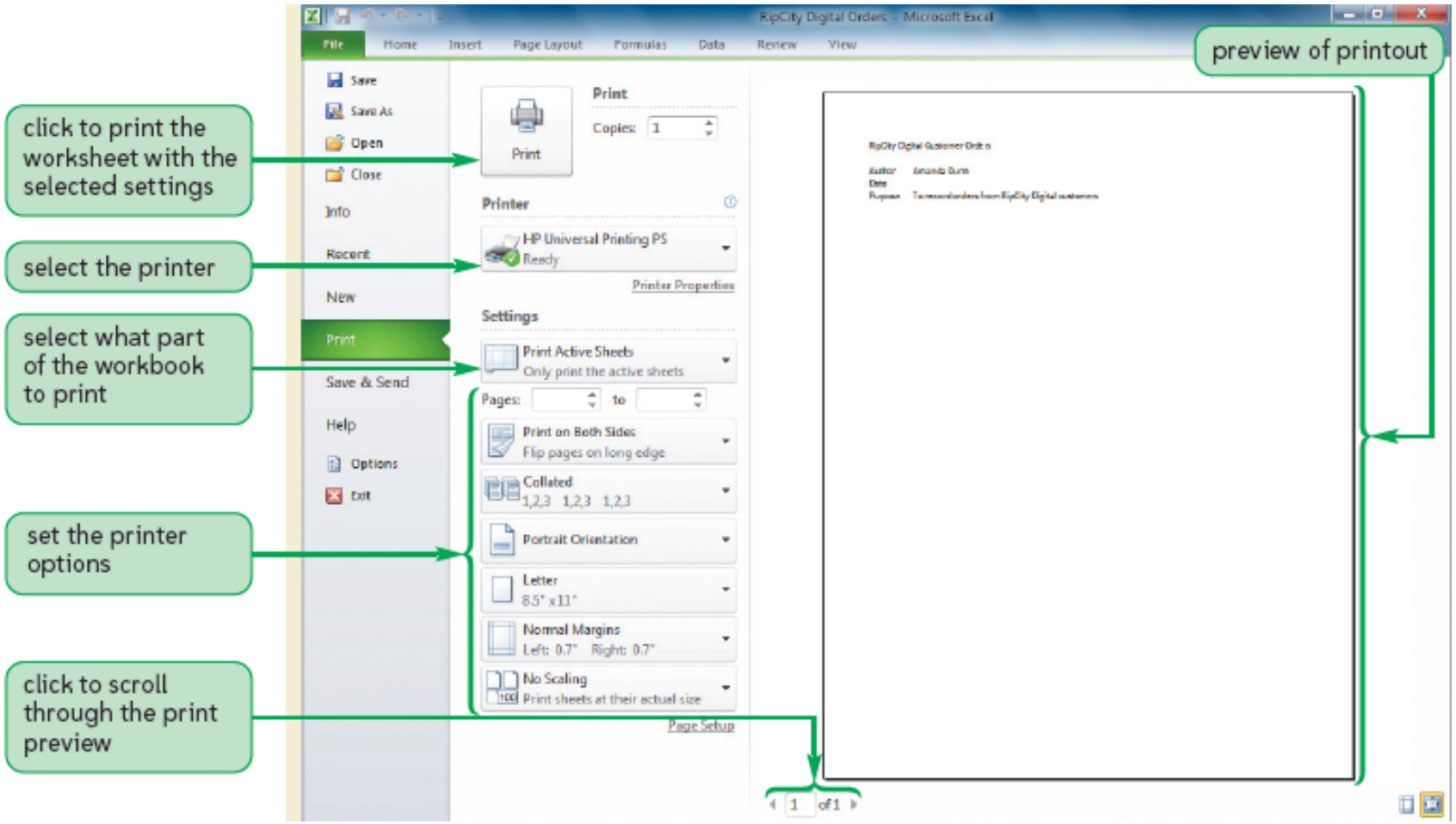
A combination of a letter and a number that specifies the column and row in which a cell is located on a spreadsheet is called cell address.

In the following example, a highlighted cell is shown in a Microsoft Excel spreadsheet.

D8 (column D, row 8) is the highlighted cell and this cell address is shown in the address bar.

Any modifications made while this cell is highlighted will be limited to this item in the spreadsheet.

4.2.3 Printing a Workbook



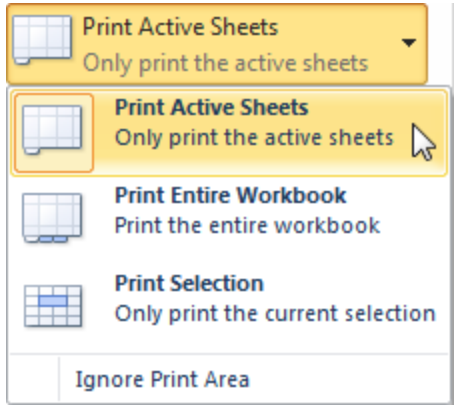
To print active sheets:

1. Select the worksheets you want to print. To print multiple worksheets, click the first worksheet, hold down the Ctrl key, then click the other worksheets you want to select.

2. Click the File tab.

3. Select Print to access the Print pane.

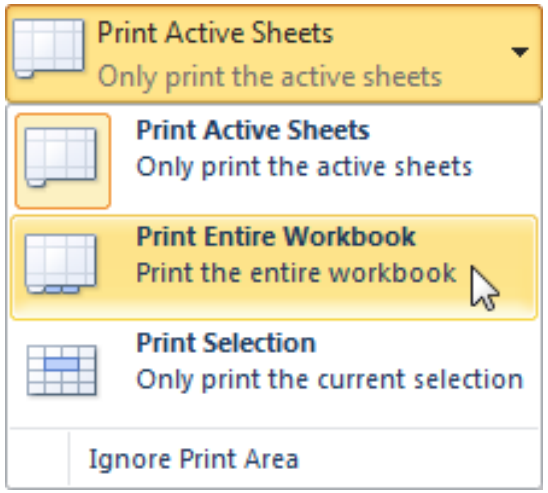
4. Select Print Active Sheets from the print range drop-down menu.



5. Click the Print button.

To print the entire workbook :

1. Click the File tab.
2. Select Print to access the Print pane.
3. Select Print Entire Workbook from the print range drop-down menu.



4. Click the Print button.

To print a selection or set the print area:

Printing a selection—sometimes called setting the print area—lets you choose which cells to print, as opposed to the entire worksheet.

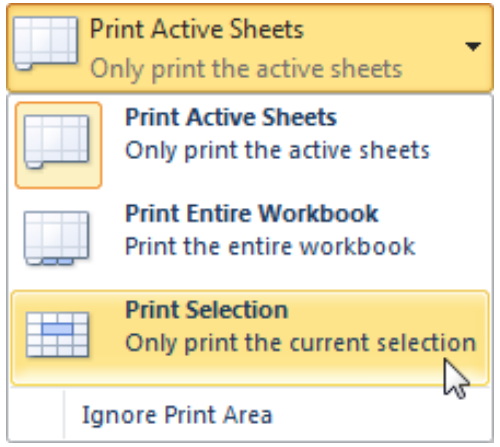
1. Select the cells you want to print.

	A	B	C
1	Employee Name	January	February
2	Allenson, Carol	$ 5,897.00	$ 2,356.00
3	Altman, Zoey	$ 666.00	$ 6,210.00
4	Aurelio, Fies	$ 5,889.00	$ 9,385.00
5	Aurelio, Vig	$ 8,765.00	$ 9,258.00
6	Bergman, Jeffery	$ 1,928.00	$ 6,595.00
7	Bittiman, William	$ 4,108.00	$ 7,172.00
8	Carlson, David	$ 6,302.00	$ 358.00
9	Carlton, Potter	$ 3,647.00	$ 2,858.00

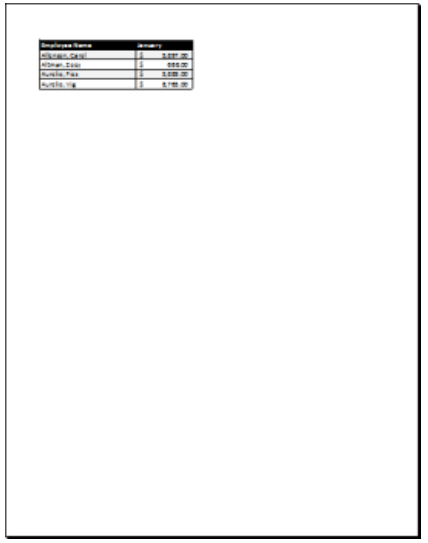
2. Click the File tab.

3. Select Print to access the Print pane.

4. Select Print Selection from the print range drop-down menu.



5. You can see what your selection will look like on the page in Print Preview.



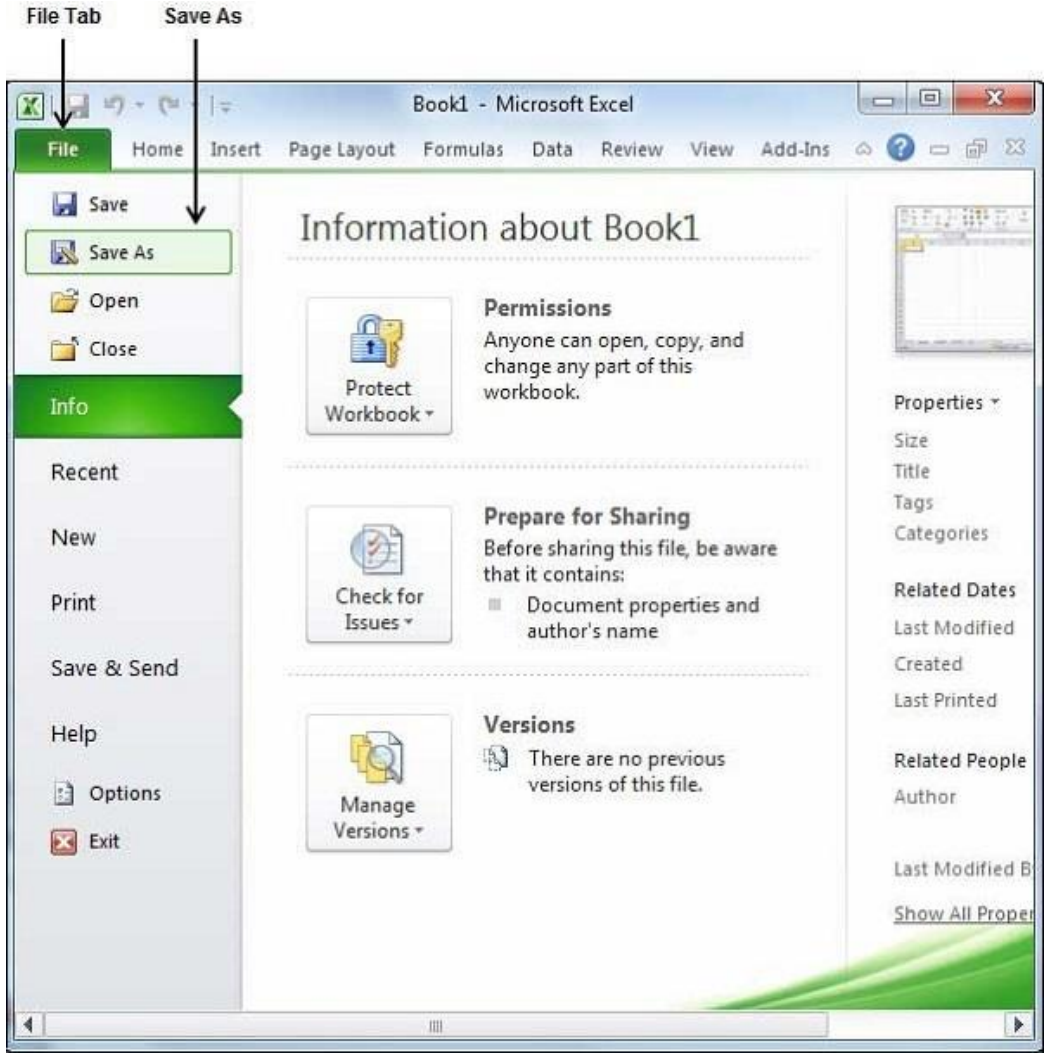
6. Click the Print button.

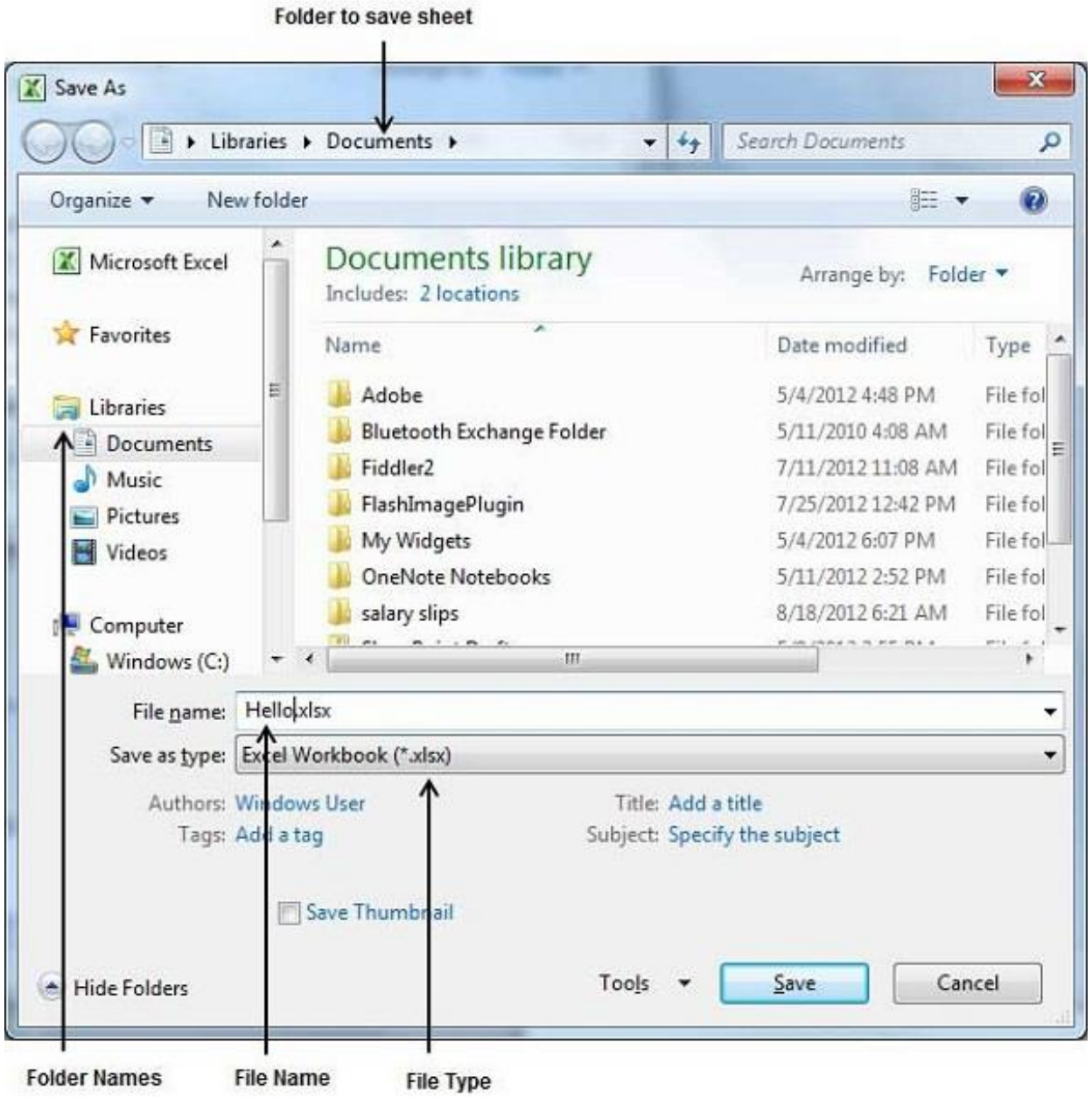
4.2.4 Saving New Sheet

Following are the steps to save an edited excel sheet −

STEPS :

1. Click the File tab and select Save As option.





2. Select a **folder** where you would like to save the sheet, Enter **file name,** which you want to give to your sheet and Select a Save as type, by default it is **.xlsx** format.

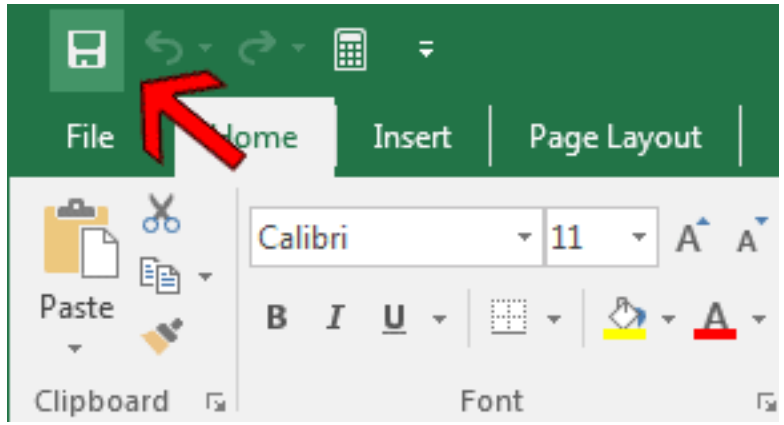
3. Finally, click on **Save** button and your sheet will be saved with the entered name in the selected folder.

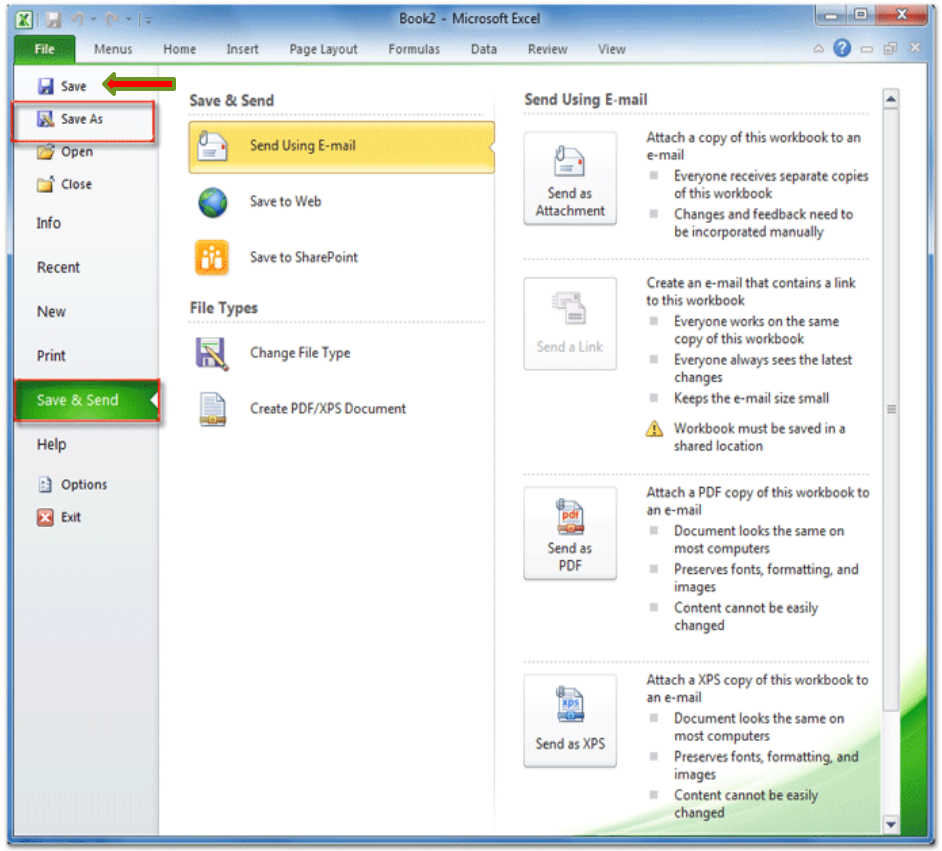
Saving New Changes

If you want to save this sheet with the same name, then you can use either of the following simple options –

Just press Ctrl + S keys to save the changes.

Optionally, you can click on the floppy icon available at the top left corner and just above the File tab. This option will also save the changes.





You can also use third method to save the changes, which is the Save option available just above the Save As option as shown by the red arrow in the screen capture.

4.3 Manipulation of Cells

4.3.1 Entering Text, Numbers, and Dates

Text data :

Combination of letters, numbers, and symbols

Often referred to as a text string

Number data :

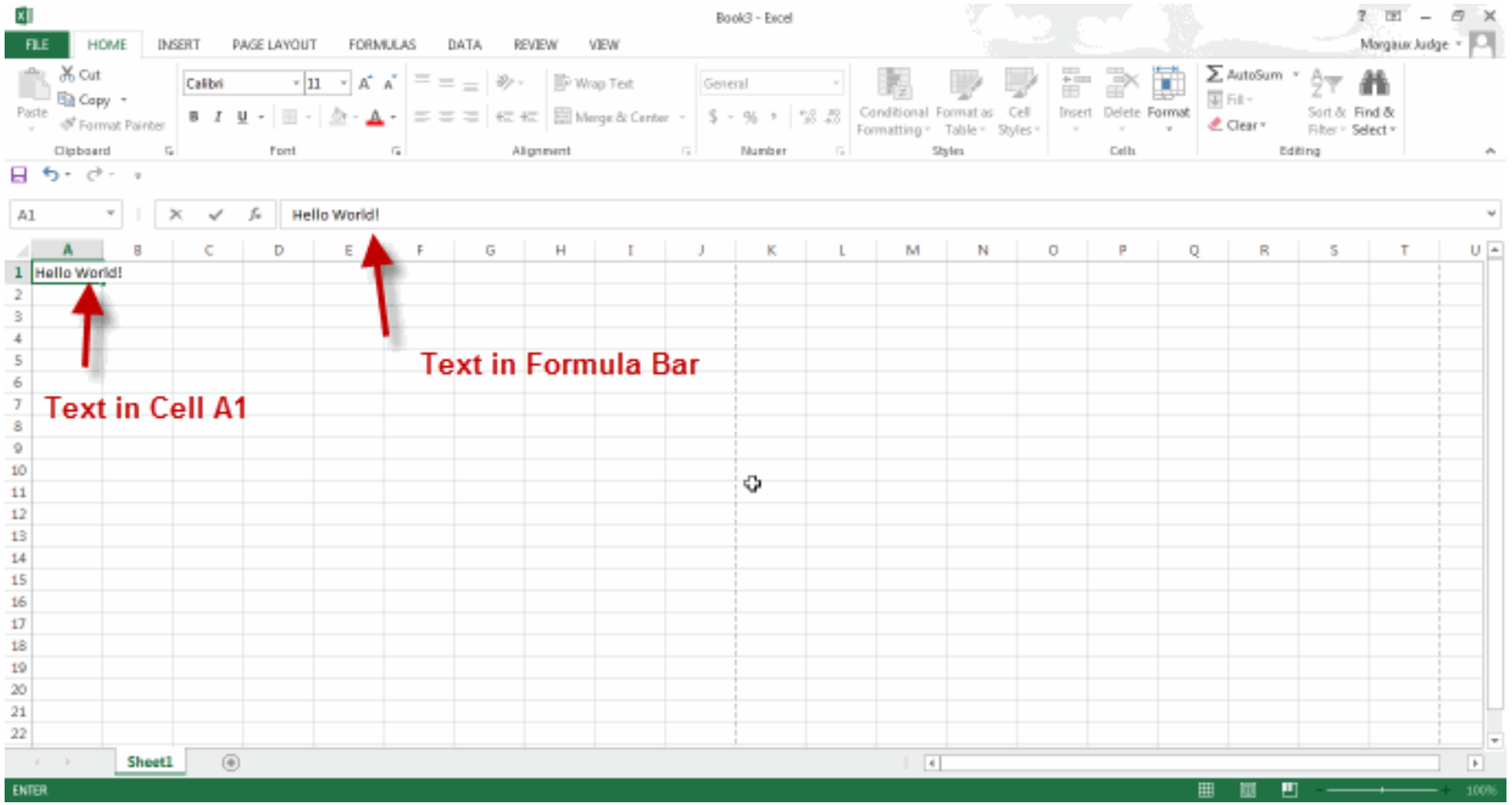
Numerical value to be used in a mathematical calculation

Date and time data :

Commonly recognized formats for date and time values

4.3 Manipulation of Cells

4.3.1 Entering Text



To enter text in Microsoft Excel:

STEPS :

1. Select the cell into which you wish to enter text by clicking on it.
2. Begin typing.

Note that in addition to showing up in the cell, the text you are typing also shows up in the Formula Bar:

4.3.1 Entering Numbers and Dates

To enter numbers in Microsoft Excel :

- Select the cell into which you wish to enter a number by clicking on it.
- Begin typing a number.

Things to be aware of when entering numbers :

- There is no need to enter commas. If you wish to display commas, you can format your numbers to display them. This will be covered in the next lesson.
- By default, trailing zeroes are not shown. For example, if you enter "5.00" into a cell and press Enter, the value shown will change to just "5". We will cover displaying decimals in the next lesson.

To enter dates in Microsoft Excel :

- Select the cell into which you wish to enter a date by clicking on it.
- Type the date in the following format: mm/dd/yy (e.g., 12/21/12) or m/d/yy (e.g., 1/1/00).

4.3.2 Entering Numbers and Dates

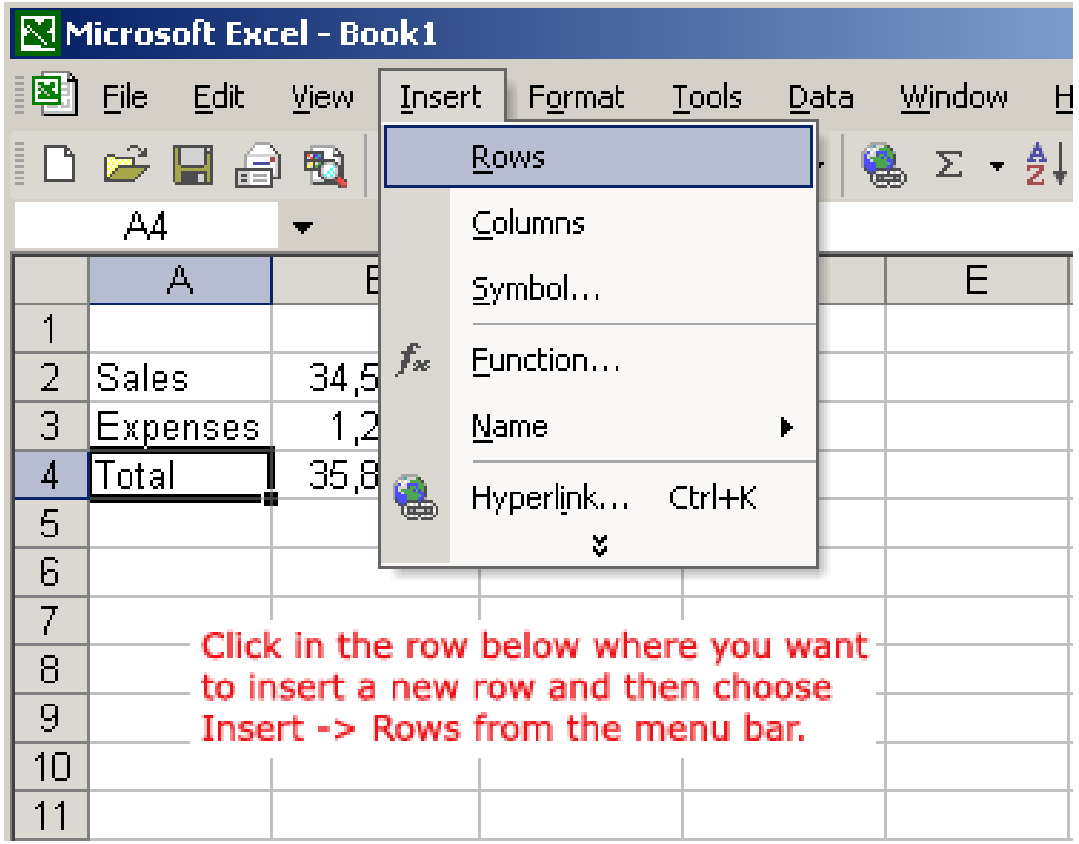
Inserting a row

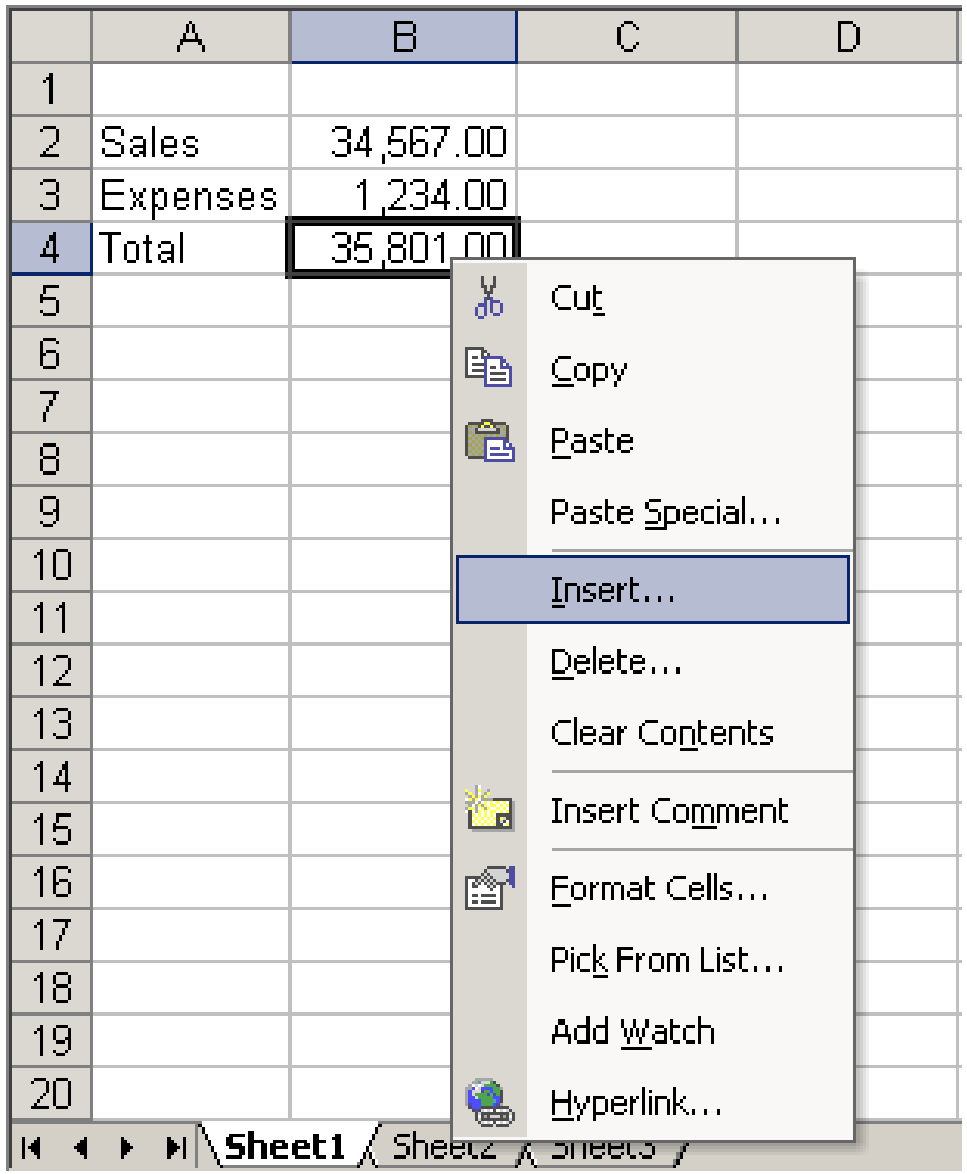
STEPS :

1. Click anywhere in the row below where you want to insert the new row.

2. Choose Insert Rows from the menu bar.

A new row is inserted above the cell(s) you originally selected.

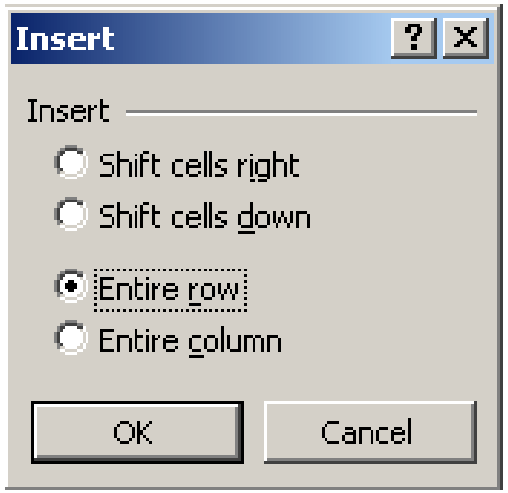




OR

STEPS :

1. Click anywhere in the row below where you want to insert the new row.
2. Right-click and choose Insert from the shortcut menu.



3. The Insert dialog box opens.

4. Choose Entire Row.
5. Click OK.

	A	B	C
1			
2	Sales	34,567.00	
3	Expenses	1,234.00	
4			
5	Total	35,801.00	
6			

A blank row is inserted between rows 3 and 4.

A new row is inserted above the cell(s) you originally selected.

Select multiple rows before choosing Insert to add rows quickly. Excel inserts the same number of new rows you originally selected.

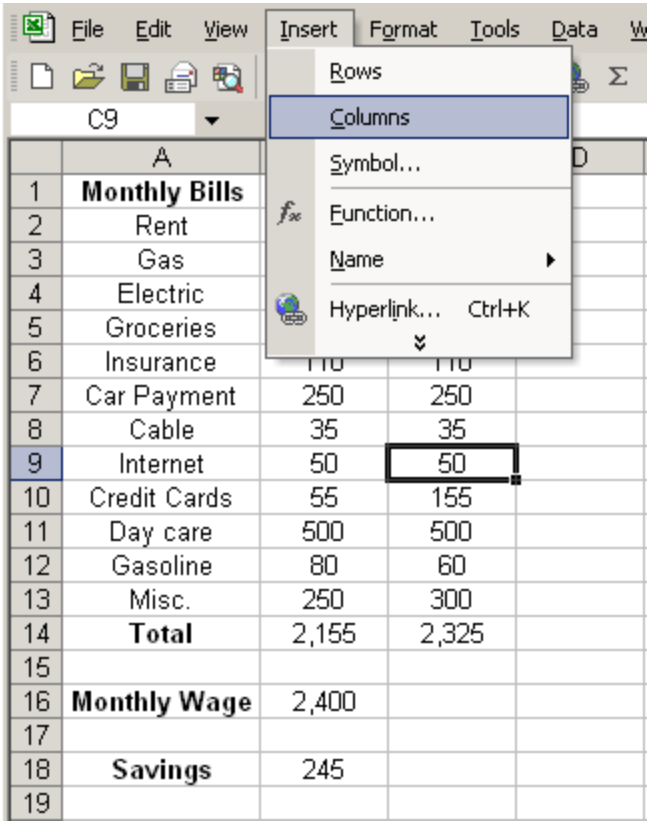
Inserting a column

In Excel, you can insert a column anywhere you need it. Excel moves the existing columns to make room for the new one.

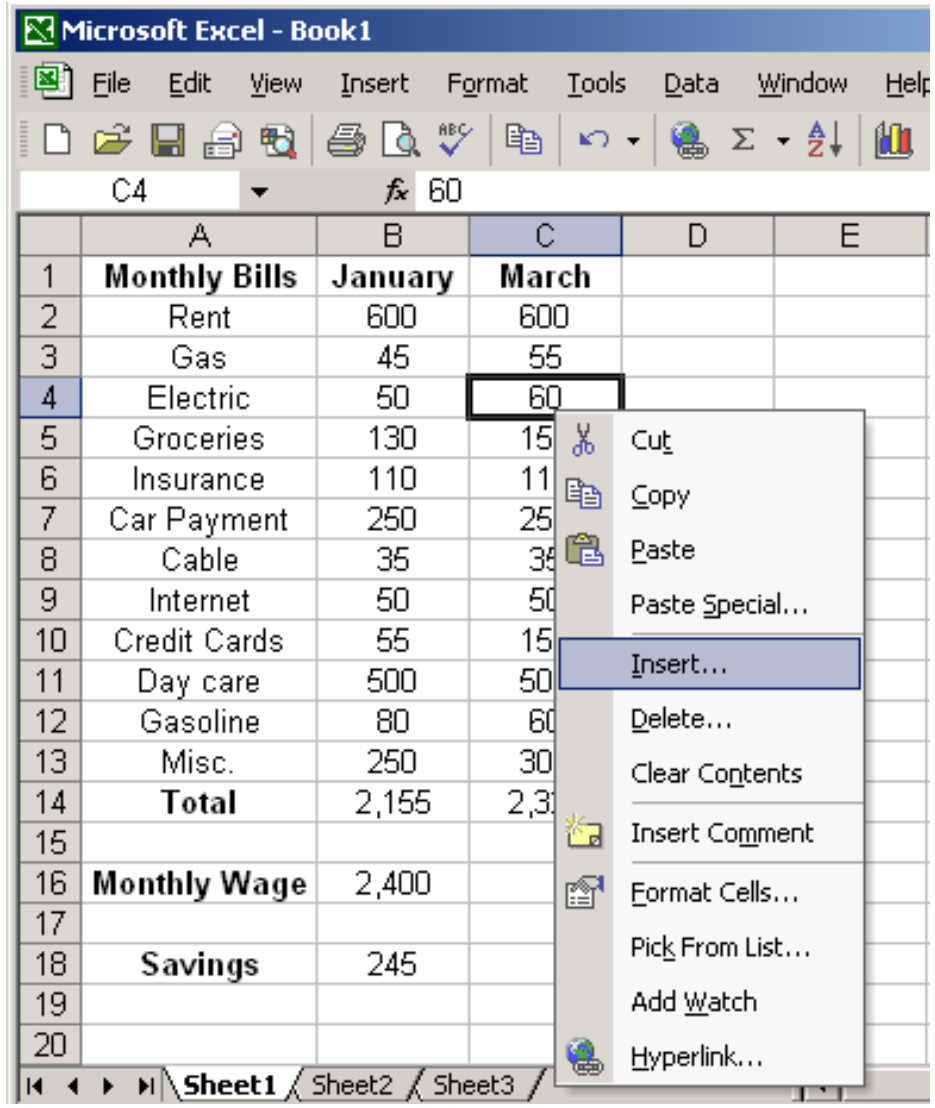
STEPS :

1. Click **anywhere** in the column where you want to **insert** a new column.
2. Choose **Insert Columns** from the **menu bar.**

A new column is inserted to the left of the existing column.



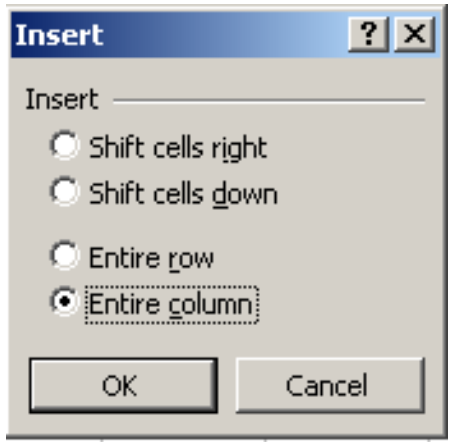
	A	B	C
1	**Monthly Bills**		
2	Rent		
3	Gas		
4	Electric		
5	Groceries		
6	Insurance	110	110
7	Car Payment	250	250
8	Cable	35	35
9	Internet	50	50
10	Credit Cards	55	155
11	Day care	500	500
12	Gasoline	80	60
13	Misc.	250	300
14	**Total**	2,155	2,325
15			
16	**Monthly Wage**	2,400	
17			
18	**Savings**	245	
19			



OR

STEPS :

1. Click anywhere in the column where you want to insert a new column.
2. Right-click and choose Insert from the shortcut menu.



The Insert dialog box opens then
3. Click Entire Column in the Insert dialog box.
4. Click OK.

A new column is inserted to the left of the existing column.

You can also select multiple columns before choosing Insert to add columns quickly. Excel inserts the same number of new columns you originally selected.

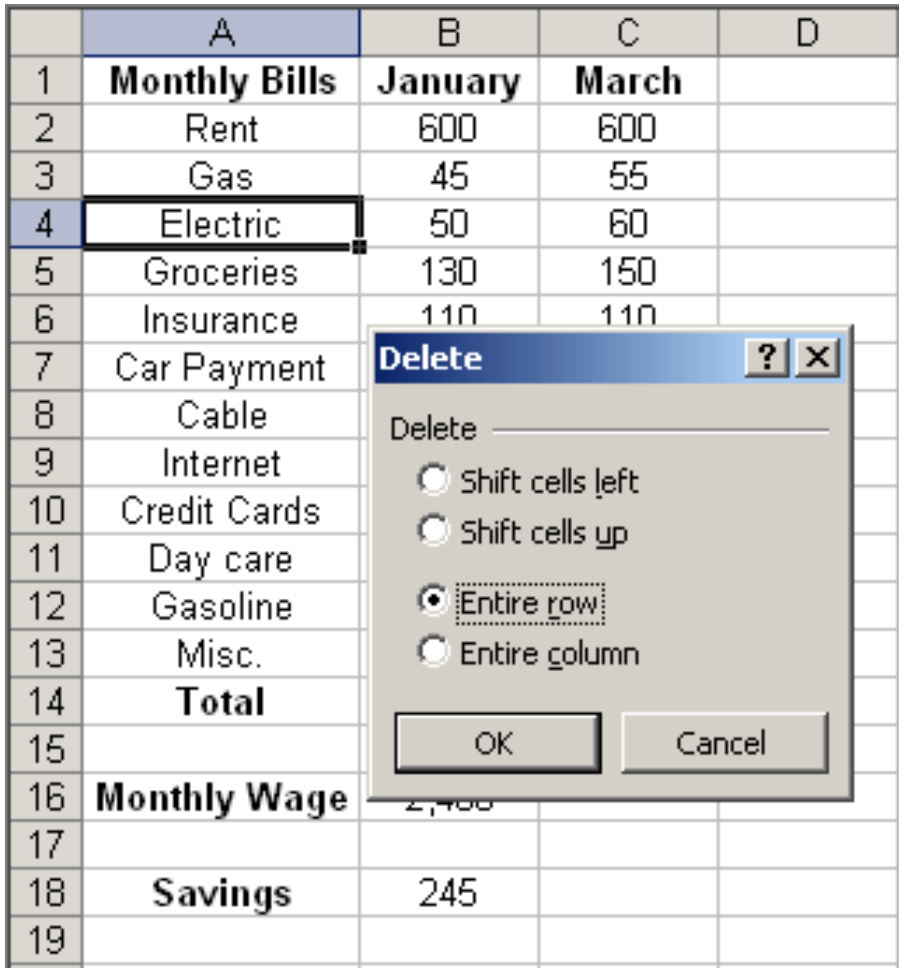
	A	B	C	D	E
1	**Monthly Bills**	**January**		**March**	
2	Rent	600		600	
3	Gas	45		55	
4	Electric	50		60	
5	Groceries	130		150	
6	Insurance	110		110	
7	Car Payment	250		250	
8	Cable	35		35	
9	Internet	50		50	
10	Credit Cards	55		155	
11	Day care	500		500	
12	Gasoline	80		60	
13	Misc.	250		300	
14	**Total**	2,155		2,325	
15					
16	**Monthly Wage**	2,400			
17					
18	**Savings**	245			
19					

A new column is inserted between the January and March columns.

To delete a row and all information in it:

STEPS :

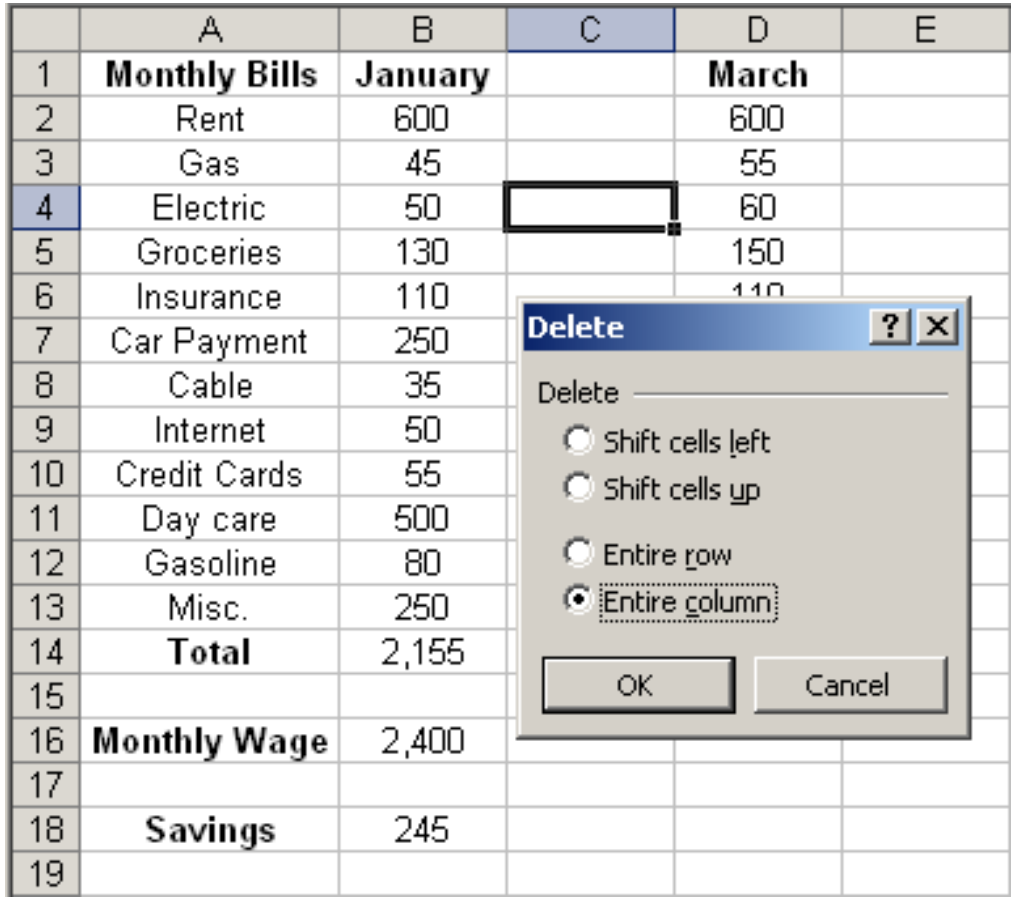
1. Select a cell in the row to be deleted.
2. Choose Edit Delete from the menu bar.
3. Click Entire Row in the Delete dialog box.
4. Click OK.



To delete a column and all information in it:

STEPS :

1. Select a cell in the column to be deleted.
2. Choose Edit Delete from the menu bar.
3. Click Entire Column in the Delete dialog box.
4. Click OK.



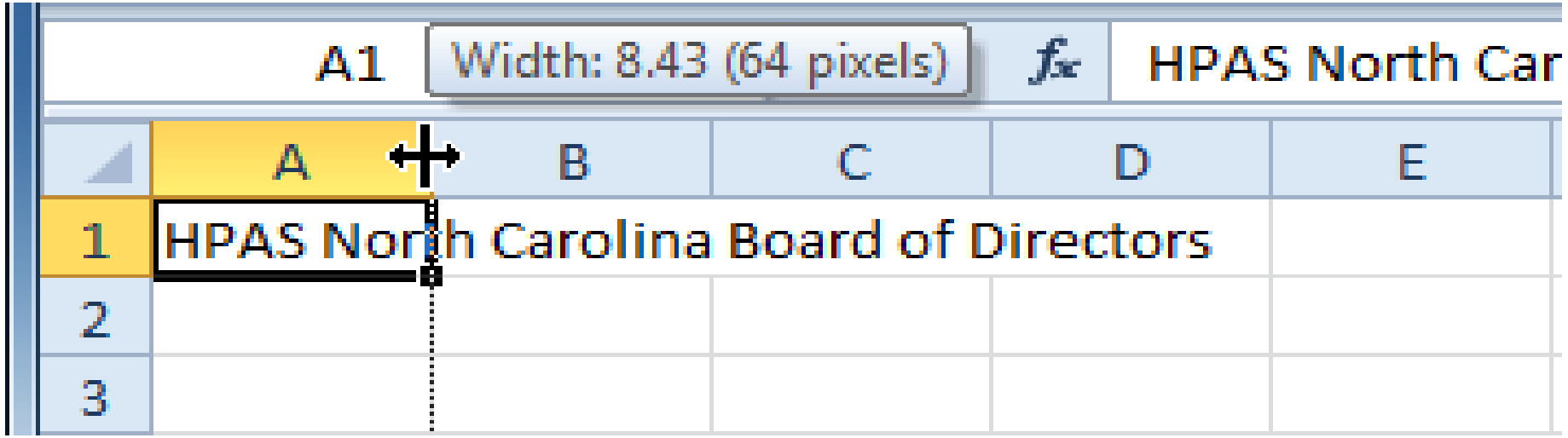
	A	B	C	D	E
1	**Monthly Bills**	**January**		**March**	
2	Rent	600		600	
3	Gas	45		55	
4	Electric	50		60	
5	Groceries	130		150	
6	Insurance	110			
7	Car Payment	250			
8	Cable	35			
9	Internet	50			
10	Credit Cards	55			
11	Day care	500			
12	Gasoline	80			
13	Misc.	250			
14	**Total**	2,155			
15					
16	**Monthly Wage**	2,400			
17					
18	**Savings**	245			
19					

4.3.5 Changing Cell Height and Width

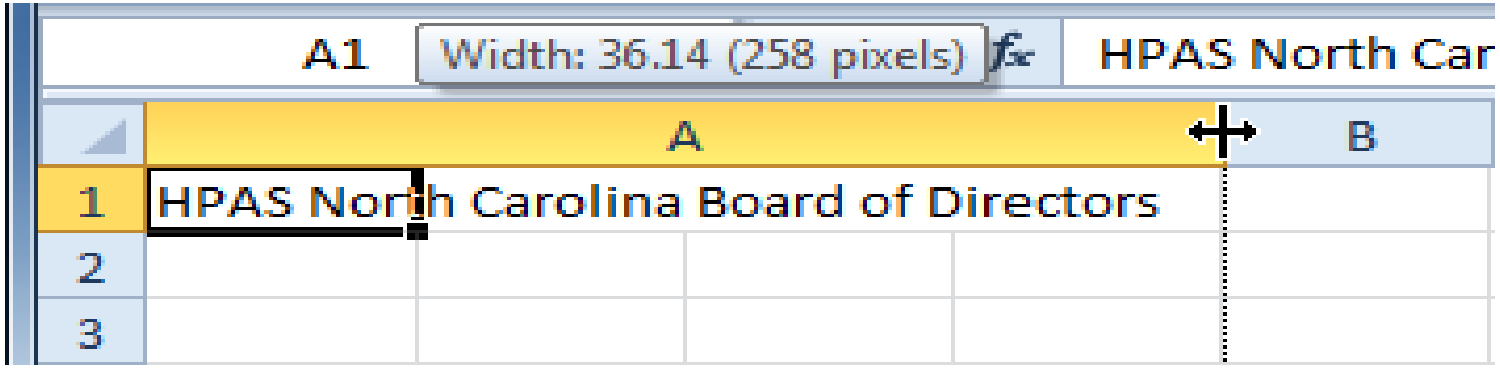
To modify column width:

STEPS :

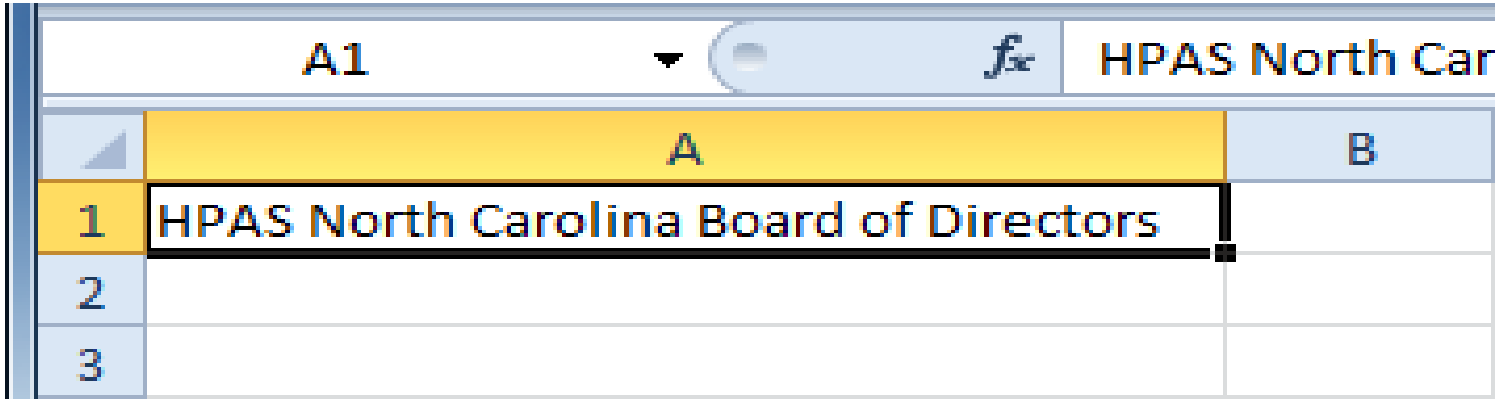
1. Position your mouse over the column line in the column heading so the white cross becomes a double arrow



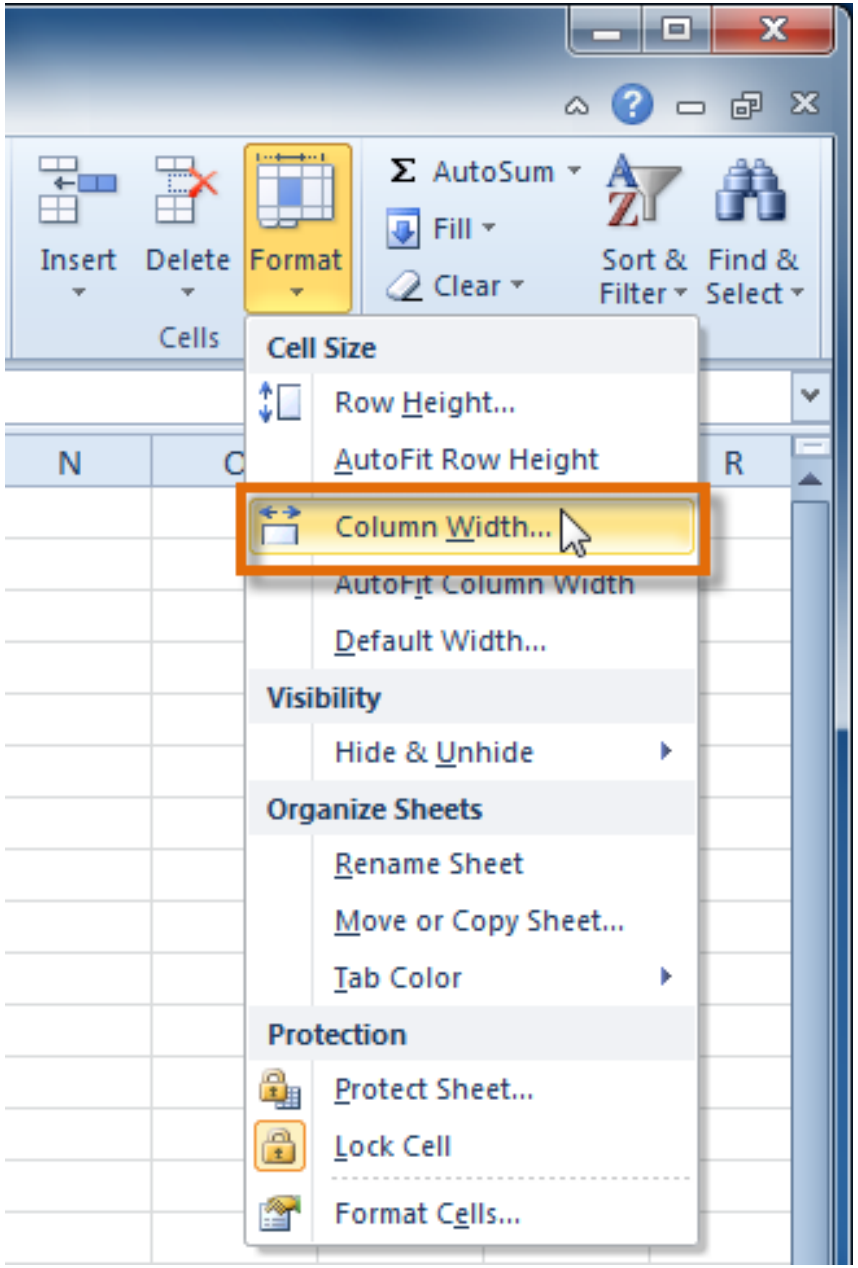
2. Click and drag the column to the right to increase column width or to the left to decrease column width.



3. Release the mouse. The column width will be changed in your spreadsheet.



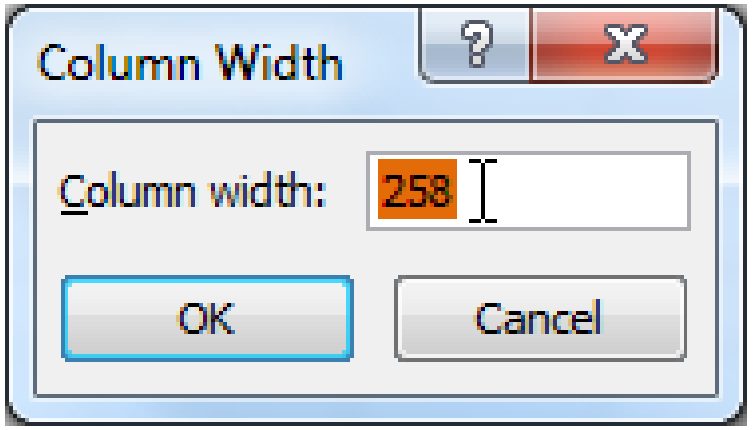
If you see pound signs (########) in a cell, it means the column is not wide enough to display the cell content. Simply increase the column width to show the cell content.



To set column width with a specific measurement:

STEPS :

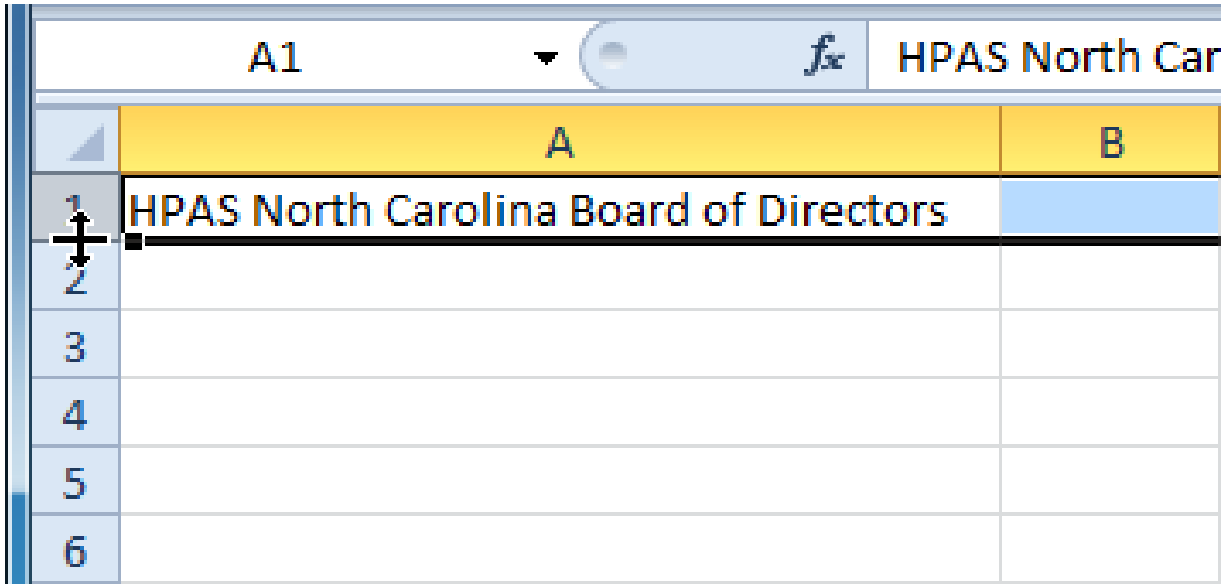
1. Select the columns you want to modify.
2. Click the Format command on the Home tab.
3. The format drop-down menu appears then Select Column Width



4. The Column Width dialog box appears. Enter a specific measurement.
5. Click OK. The width of each selected column will be changed in your worksheet.

OR

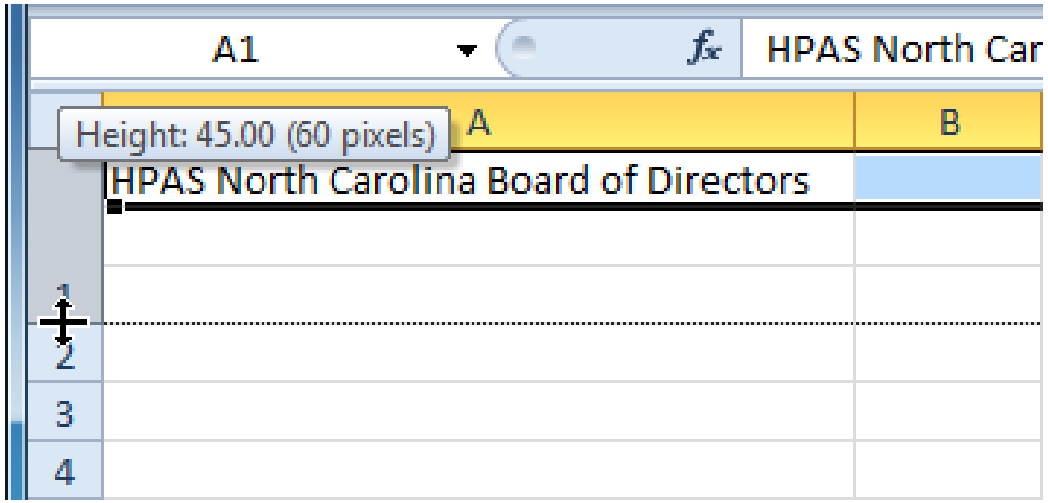
Select AutoFit Column Width from the format drop-down menu, and Excel will automatically adjust each selected column so all of the text will fit.



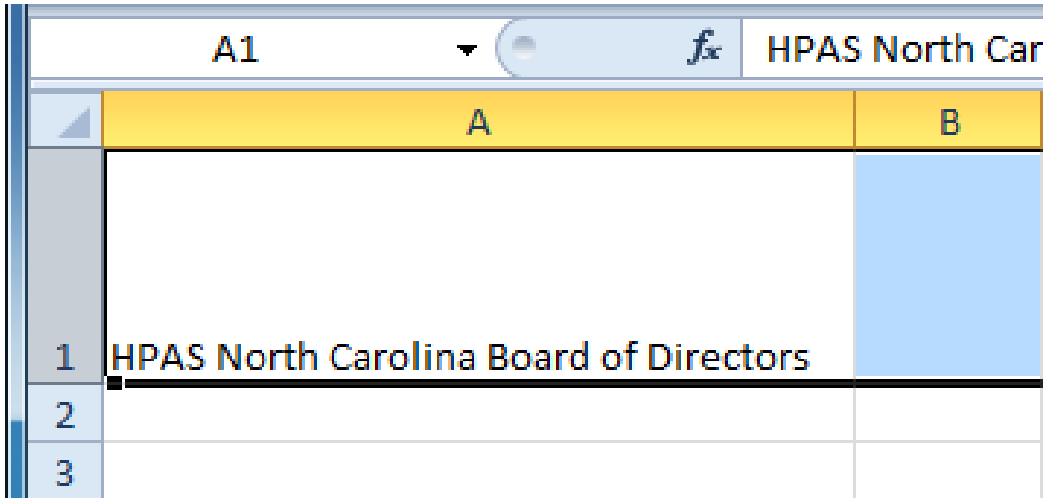
To modify row height:

STEP :

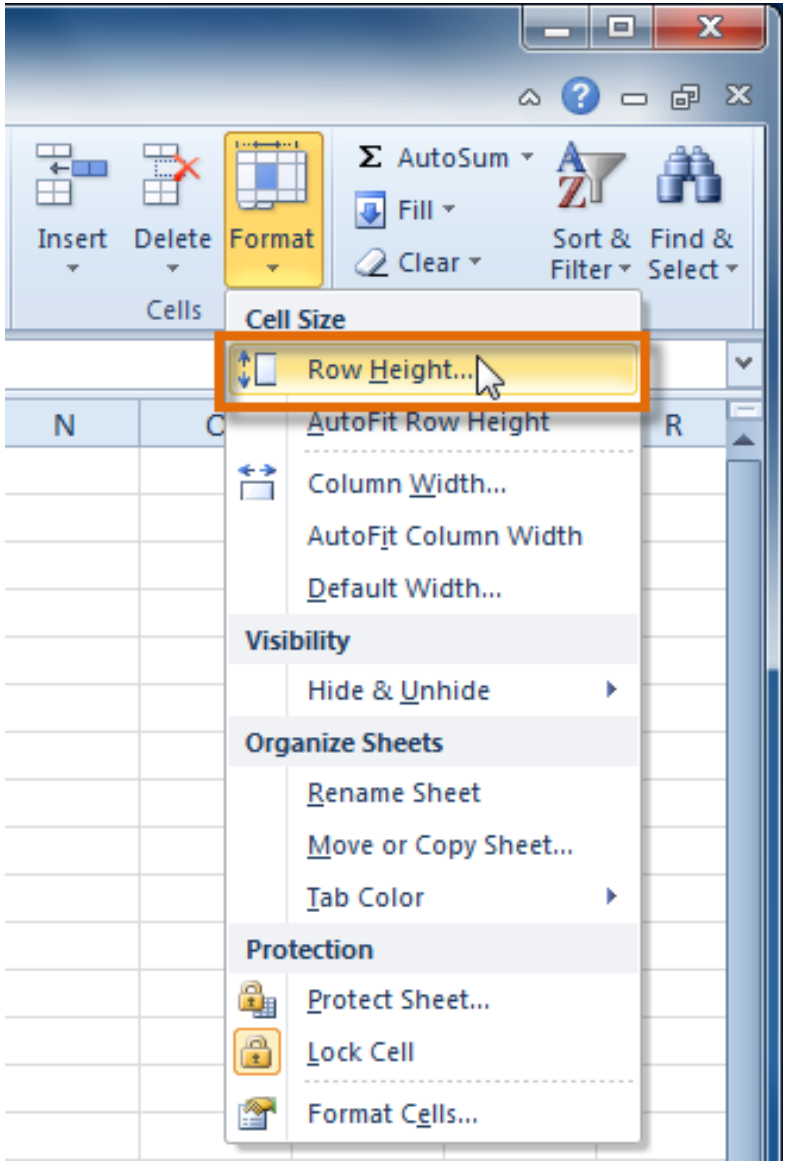
1. Position the cursor ✥ over the row line so the white cross becomes a double arrow ↕



2. Click and drag the row downward to increase row height or upward to decrease height.



3. Release the mouse. The height of each selected row will be changed in your worksheet.

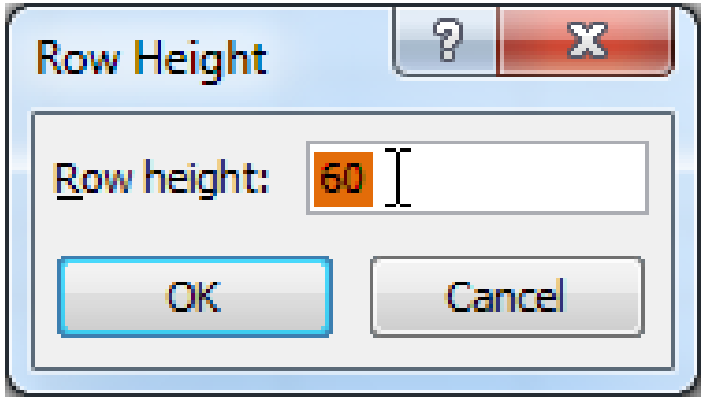


To set row height with a specific measurement:

STEPS :

1. Select the rows you want to modify.
2. Click the Format command on the Home tab.
3. The format drop-down menu appears.
Select Row Height.

4. The Row Height dialog box appears. Enter a specific measurement.
5. Click OK. The selected rows heights will be changed in your spreadsheet.



OR

Select AutoFit Row Height from the format drop-down menu, and Excel will automatically adjust each selected row so all of the text will fit.

4.4 Function and Charts

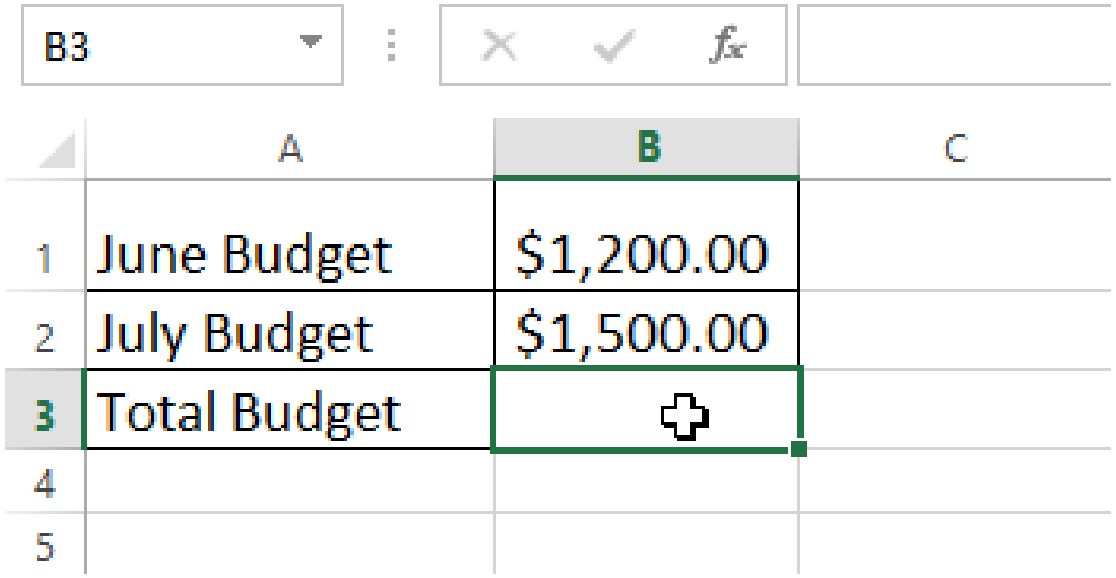
4.4.1 Using Formulas

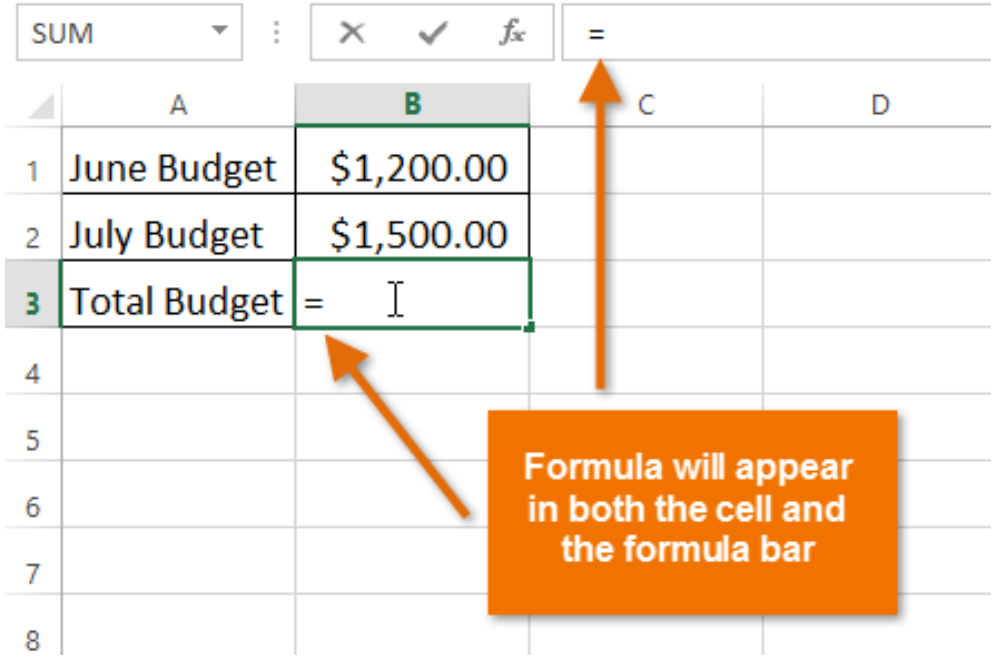
To create a formula:

In our example below, we'll use a simple formula and cell references to calculate a budget.

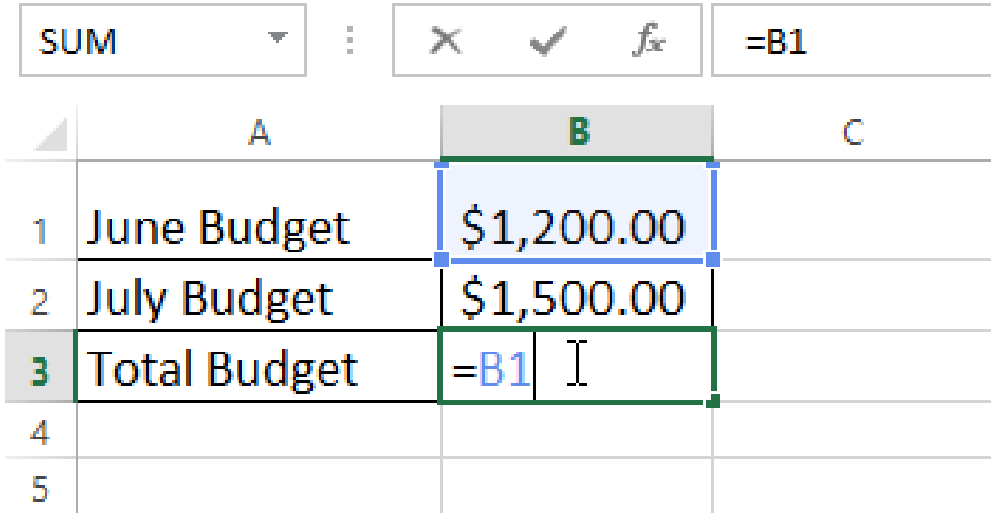
STEPS :

1. Select the cell that will contain the formula. In our example, we'll select cell B3.

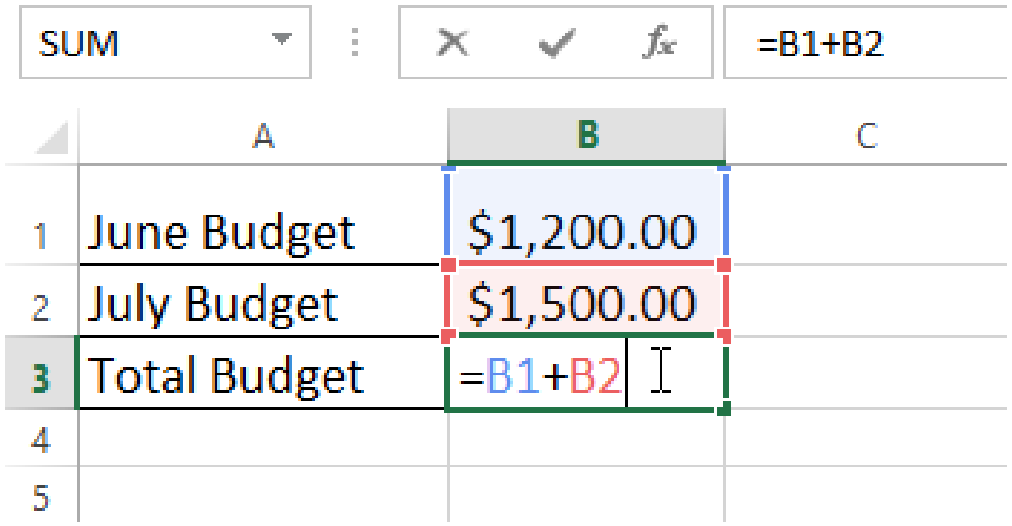




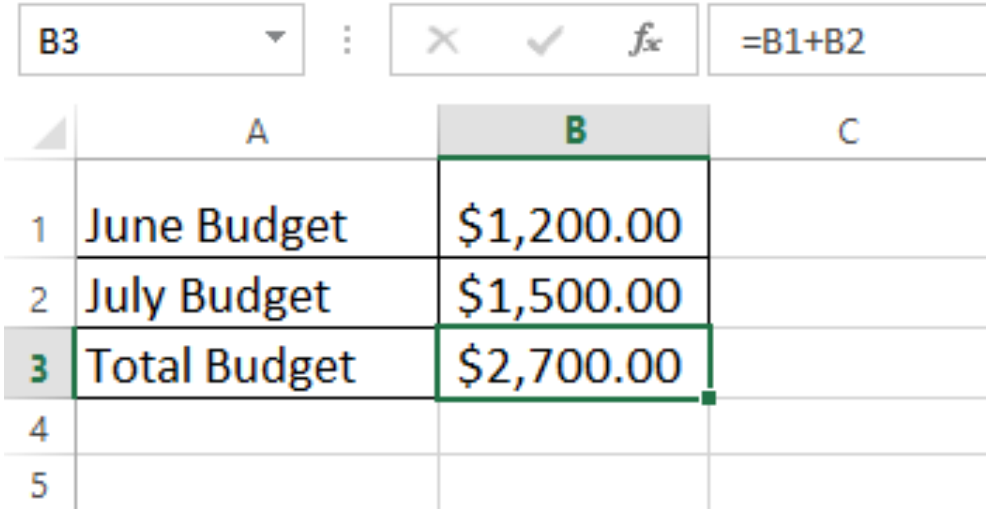
2. Type the equals sign (=). Notice how it appears in both the cell and the formula bar.



3. Type the cell address of the cell you want to reference first in the formula: cell B1 in our example. A blue border will appear around the referenced cell.



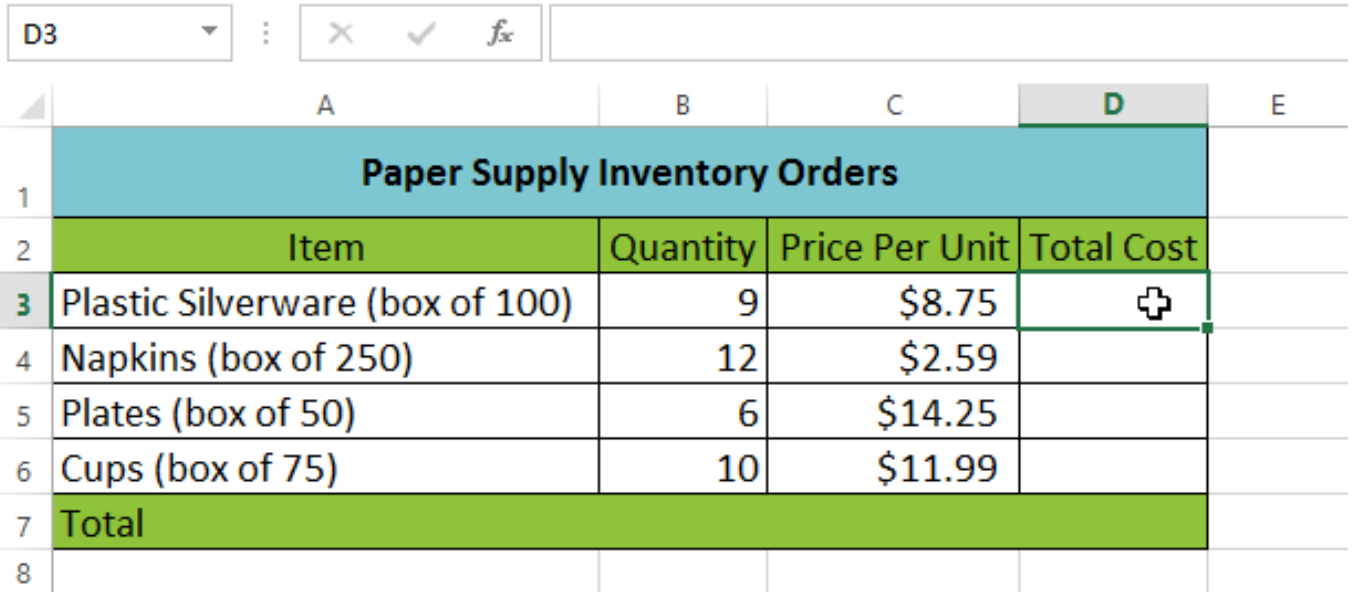
4. Type the **mathematical operator** you want to use. In our example, we'll type the **addition sign (+)**.
5. Type the **cell address** of the cell you want to reference second in the formula: cell B2 in our example. A **red border** will appear around the referenced cell.



6. Press **Enter** on your keyboard. The **formula will be calculated**, and the **value** will be displayed in the cell.

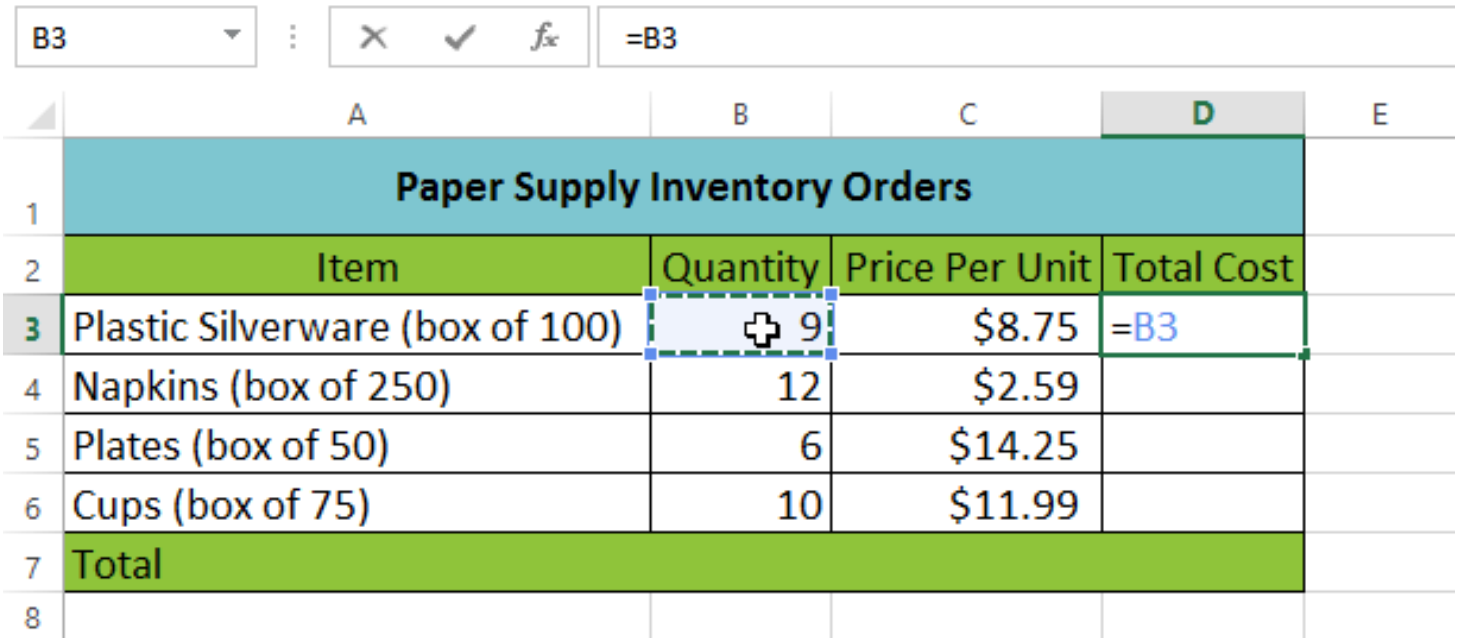
To create a formula using the point-and-click method:

Rather than typing cell addresses manually, you can point and click on the cells you want to include in your formula. This method can save a lot of time and effort when creating formulas. In our example below, we'll create a formula to calculate the cost of ordering several boxes of plastic silverware.



STEPS :

1. Select the cell that will contain the formula. In our example, we'll select cell D3.

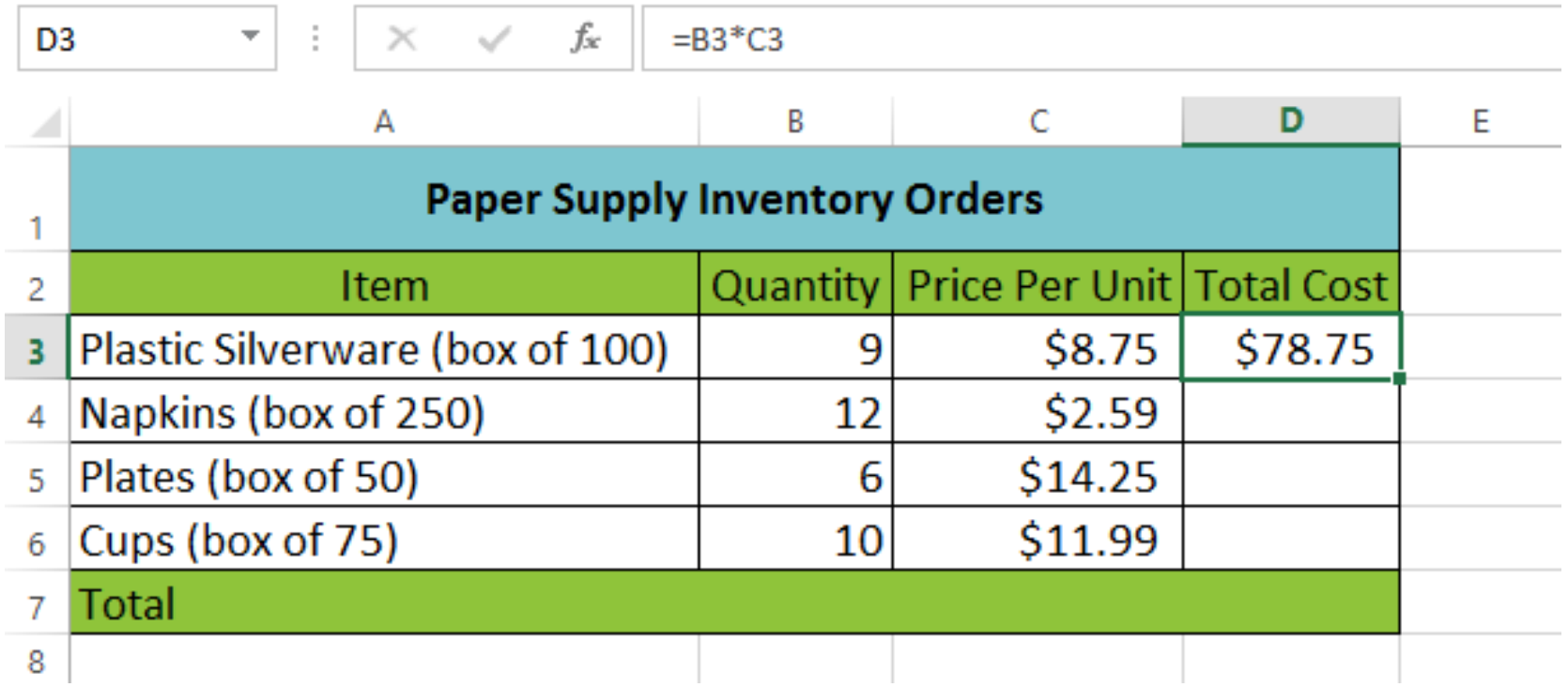


2. Type the equals sign (=).
3. Select the cell you want to reference first in the formula: cell B3 in our example. The cell address will appear in the formula, and a dashed blue line will appear around the referenced cell.

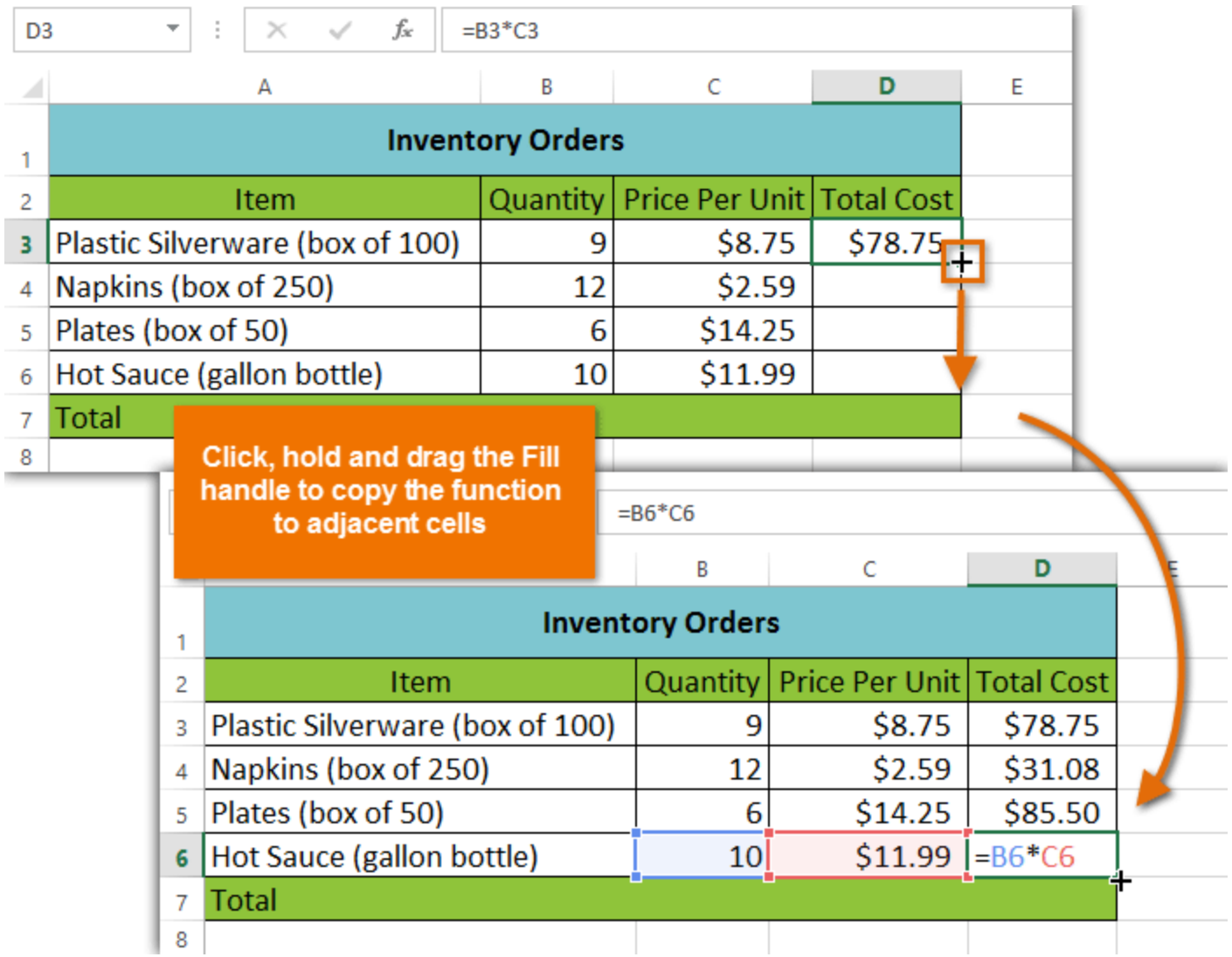
C3 | =B3*C3

	A	B	C	D	E
1	**Paper Supply Inventory Orders**				
2	Item	Quantity	Price Per Unit	Total Cost	
3	Plastic Silverware (box of 100)	9	$8.75	=B3*C3	
4	Napkins (box of 250)	12	$2.59		
5	Plates (box of 50)	6	$14.25		
6	Cups (box of 75)	10	$11.99		
7	Total				
8					

4. Type the mathematical operator you want to use. In our example, we'll type the multiplication sign (*).
5. Select the cell you want to reference second in the formula: cell C3 in our example. The cell address will appear in the formula, and a dashed red line will appear around the referenced cell.



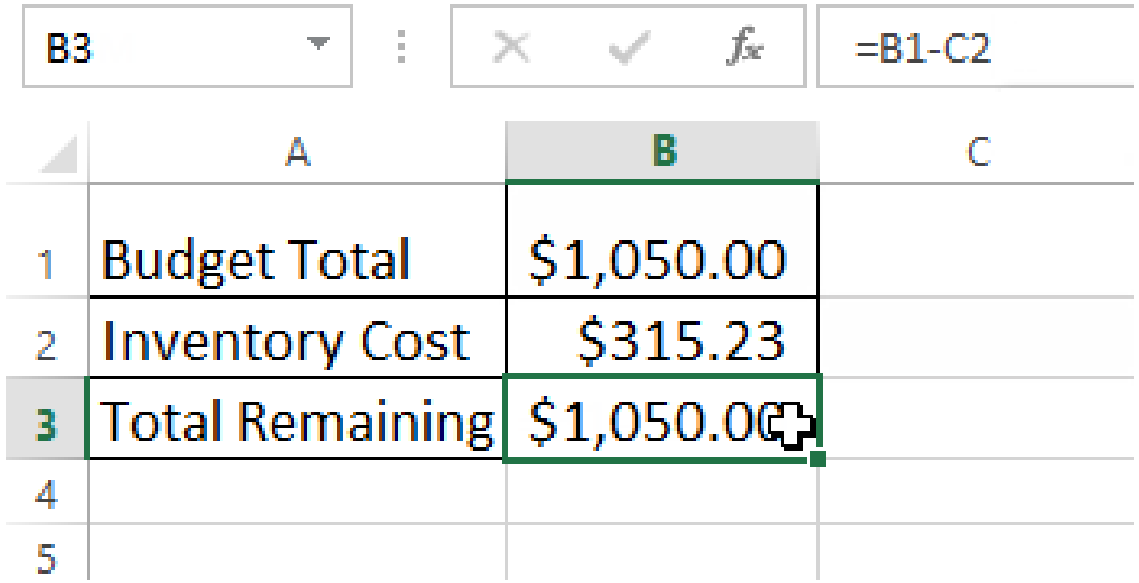
6. Press Enter on your keyboard. The formula will be calculated, and the value will be displayed in the cell.



Formulas can also be copied to adjacent cells with the fill handle, which can save a lot of time and effort if you need to perform the same calculation multiple times in a worksheet. Review our lesson on Relative and Absolute Cell References to learn more.

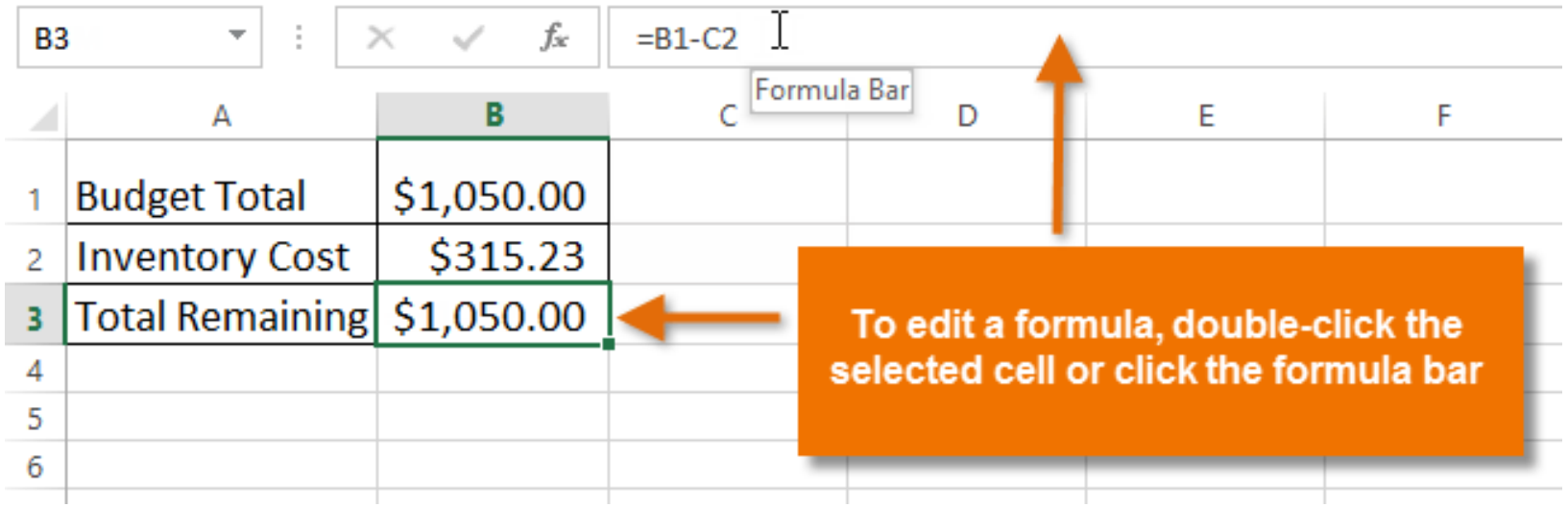
To edit a formula:

Sometimes you may want to modify an existing formula. In the example below, we've entered an incorrect cell address in our formula, so we'll need to correct it.

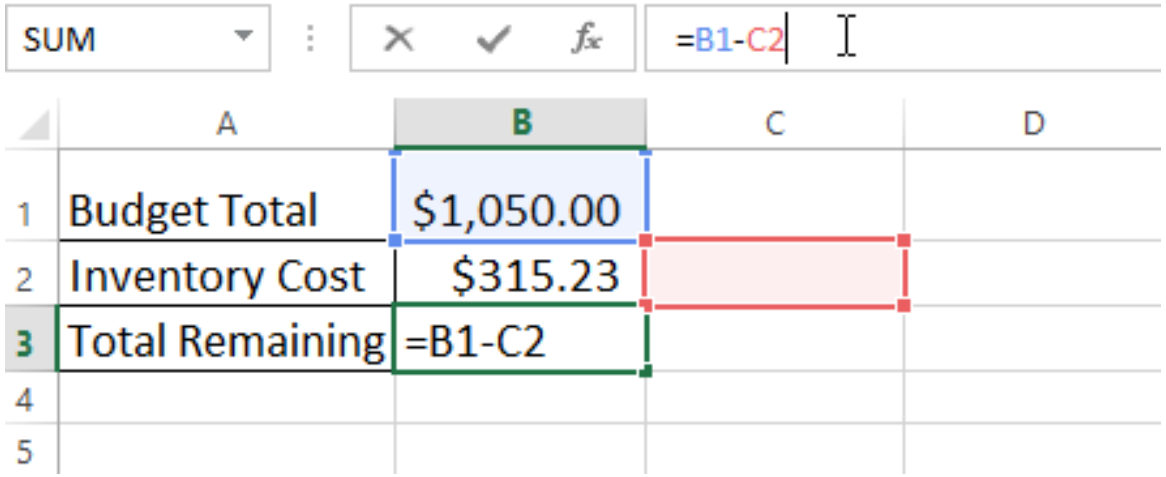


STEPS :

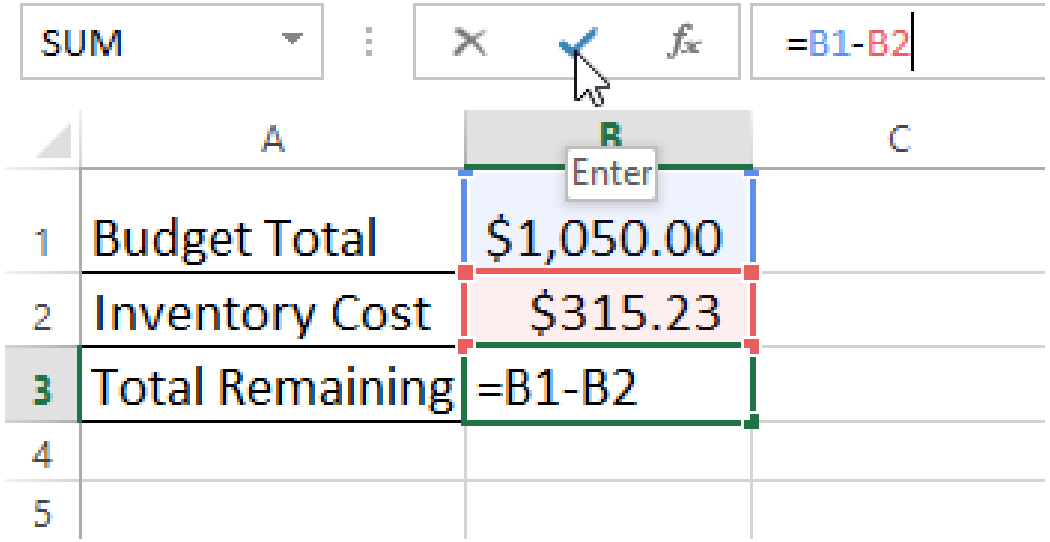
1. Select the cell containing the formula you want to edit. In our example, we'll select cell B3.



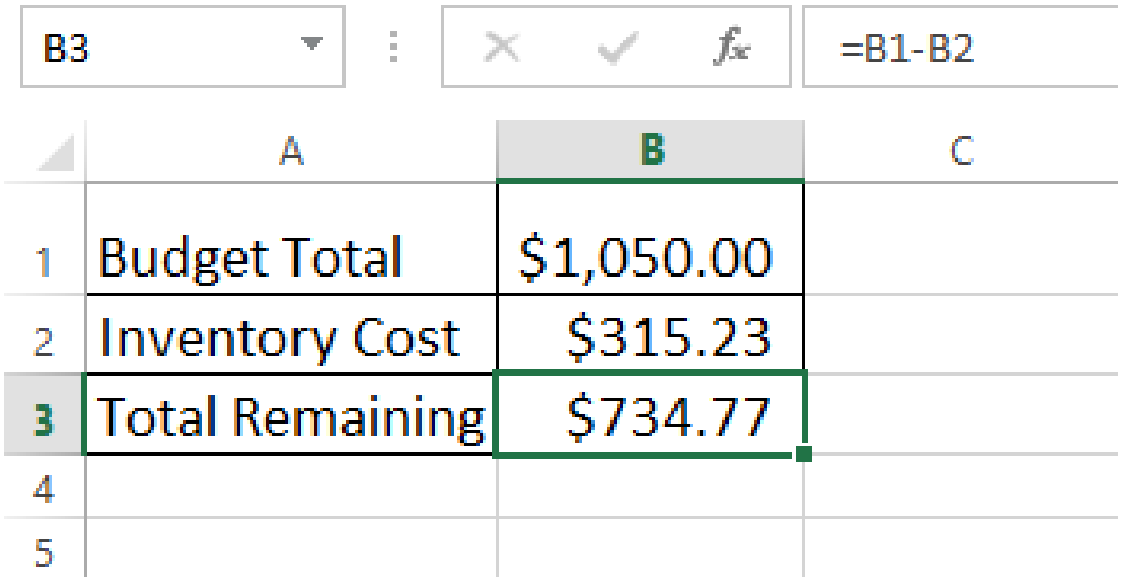
2. Click the formula bar to edit the formula. You can also double-click the cell to view and edit the formula directly within the cell.



4. A border will appear around any referenced cells. In our example, we'll change the second part of the formula to reference cell B2 instead of cell C2.



5. When you're finished, press Enter on your keyboard or click the checkmark in the formula bar.



6. The formula will be updated, and the new value will be displayed in the cell.

If you change your mind, you can press the Esc key on your keyboard to avoid accidentally making changes to your formula.

To show all of the formulas in a spreadsheet, you can hold the Ctrl key and press ` (grave accent). The grave accent key is usually located in the top-left corner of the keyboard. You can press Ctrl+` again to switch back to the normal view.

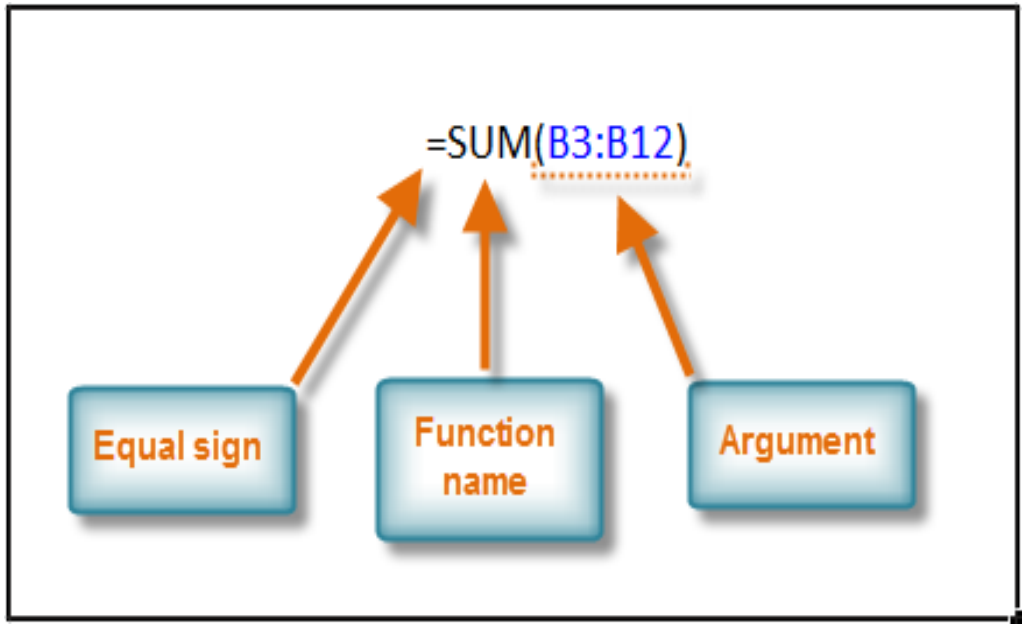
4.4.2 Working with basic functions

A function is a predefined formula that performs calculations using specific values in a particular order. One of the key benefits of functions is that they can save you time because you do not have to write the formula yourself. Excel has hundreds of functions to assist with your calculations.

To use these functions correctly, you need to understand the different parts of a function and how to create arguments in functions to calculate values and cell references.

The parts of a function

The order in which you insert a function is important. Each function has a specific order—called syntax—which must be followed in order for the function to work correctly. The basic syntax to create a formula with a function is to insert an equals sign (=), function name (SUM, for example, is the function name for addition), and argument. Arguments contain the information you want the formula to calculate, such as a range of cell references.



Working with arguments

Arguments must be enclosed in parentheses. Individual values or cell references inside the parentheses are separated by either colons or commas.

Colons create a reference to a range of cells.

For example, =AVERAGE(E19:E23) would calculate the average of the cell range E19 through E23.

Commas separate individual values, cell references, and cell ranges in parentheses. If there is more than one argument, you must separate each argument by a comma.

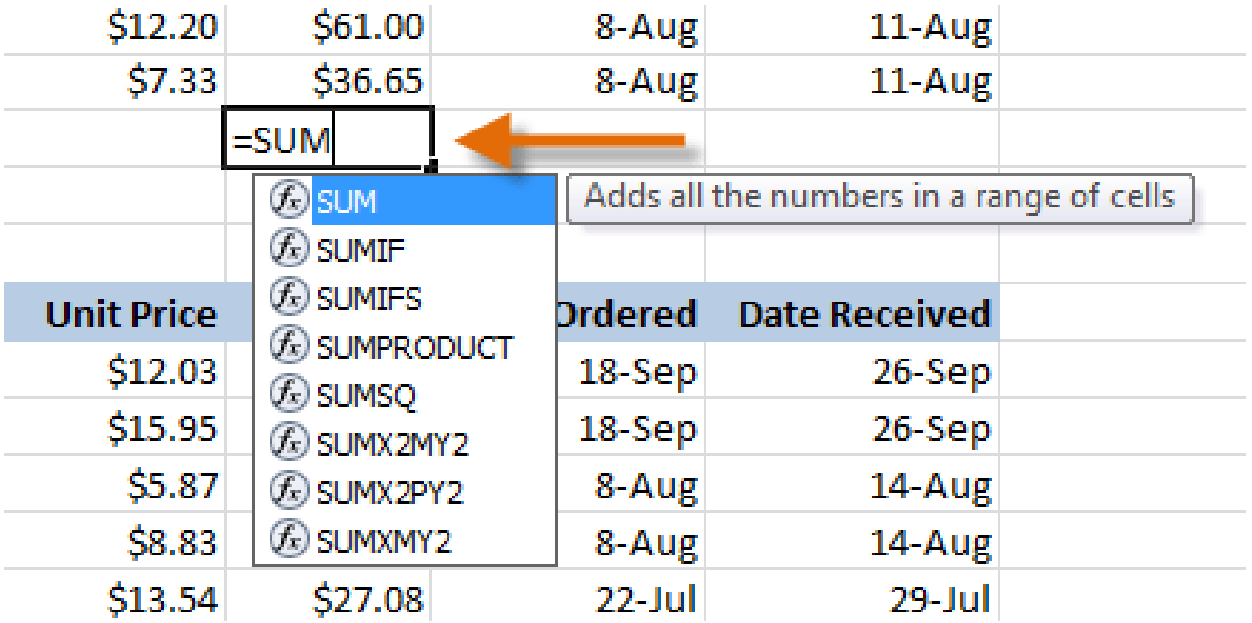
For example

=COUNT(C6:C14,C19:C23,C28) will count all the cells in the three arguments that are included in parentheses.

To create a basic function in Excel:

STEPS :

1. Select the cell where the answer will appear (F15, for example).
2. Type the equals sign (=), then enter the function name (SUM, for example).



Unit Price	Subtotal	Date Ordered	Date Received
$5.86	$58.60	12-Sep	17-Sep
$40.26	$80.52	12-Sep	17-Sep
$4.20	$42.00	6-Sep	12-Sep
$6.19	$74.28	6-Sep	12-Sep
$3.20	$48.00	6-Sep	12-Sep
$3.40	$17.00	6-Sep	12-Sep
$4.10	$32.80	6-Sep	12-Sep
$12.20	$61.00	8-Aug	11-Aug
$7.33	$36.65	8-Aug	11-Aug
	=SUM(F6:F14)		

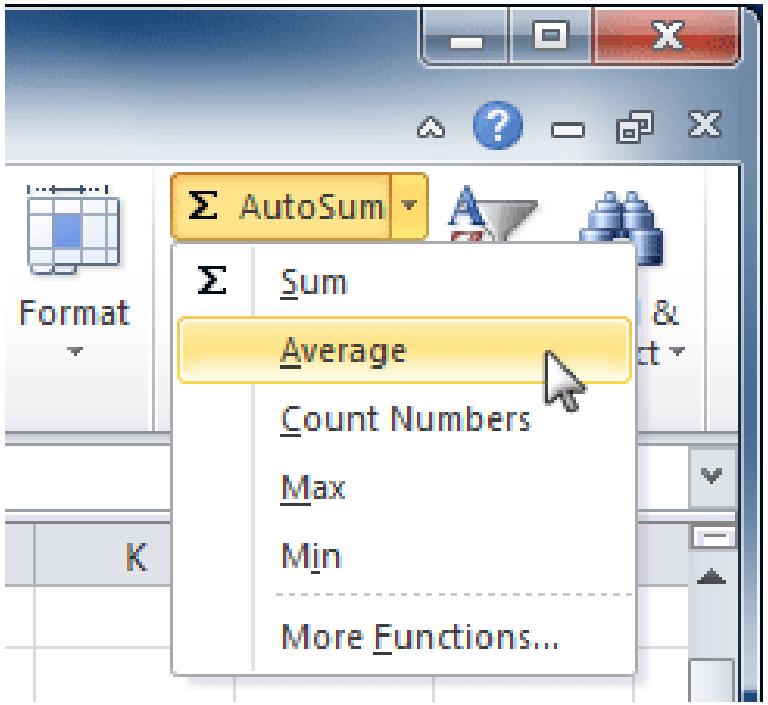
3. Enter the cells for the argument inside the parentheses.
4. Press Enter, and the result will appear.

$450.85

Excel will not always tell you if your function contains an error, so it's up to you to check all of your functions. To learn how to do this, read the Double-Check Your Formulas lesson from our Excel Formulas tutorial.

Using AutoSum to select common functions

The AutoSum command allows you to automatically return the results for a range of cells for common functions like SUM and AVERAGE.



STEPS :

1. Select the cell where the answer will appear (E24, for example).
2. Click the Home tab.
In the Editing group, click the AutoSum drop-down arrow and select the function you want (Average, for example).

Unit Price	Subtotal	Date Ordered	Date Received
$12.03	$36.09	18-Sep	26-Sep
$15.95	$31.90	18-Sep	26-Sep
$5.87	$58.70	8-Aug	14-Aug
$8.83	$88.30	8-Aug	14-Aug
$13.54	$27.08	22-Jul	29-Jul
=AVERAGE(E19:E23)			

AVERAGE(**number1**, [number2], ...)

Subtotal

3. A formula will appear in E24, the selected cell. If logically placed, AutoSum will select your cells for you. Otherwise, you will need to click the cells to choose the argument you want.

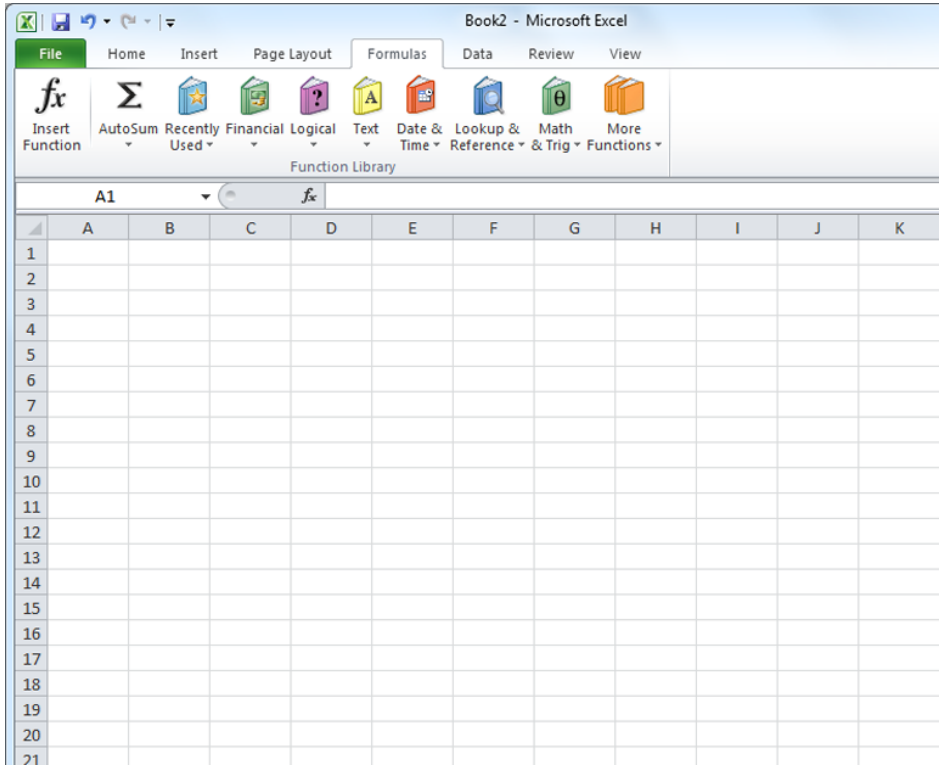
Press Enter, and the result will appear.

$11.24

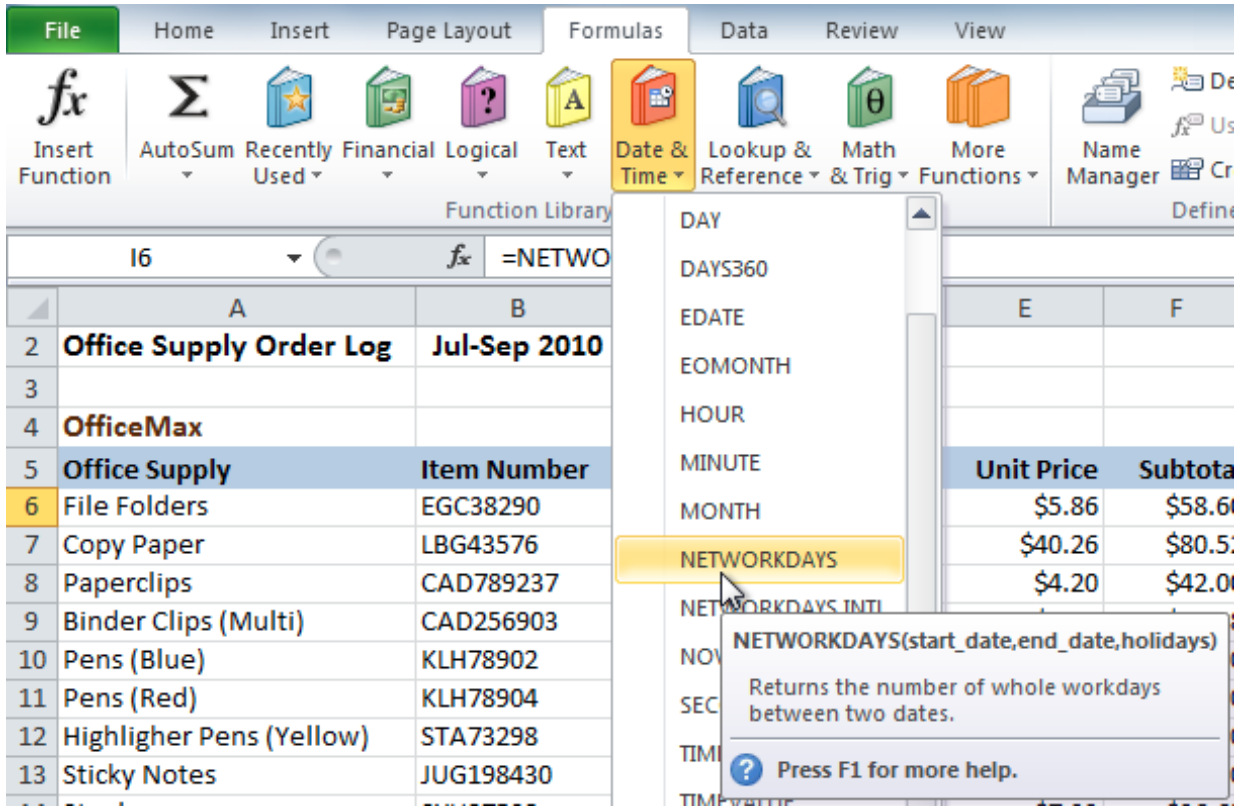
The AutoSum command can also be accessed from the Formulas tab.
You can also use the Alt+= keyboard shortcut instead of the AutoSum command. To use this shortcut, hold down the Alt key and then press the equals sign.

The Function Library

A great place to explore functions is in the Function Library on the Formulas tab. Here, you can search and select Excel functions based on categories such as Financial, Logical, Text, and Date & Time.

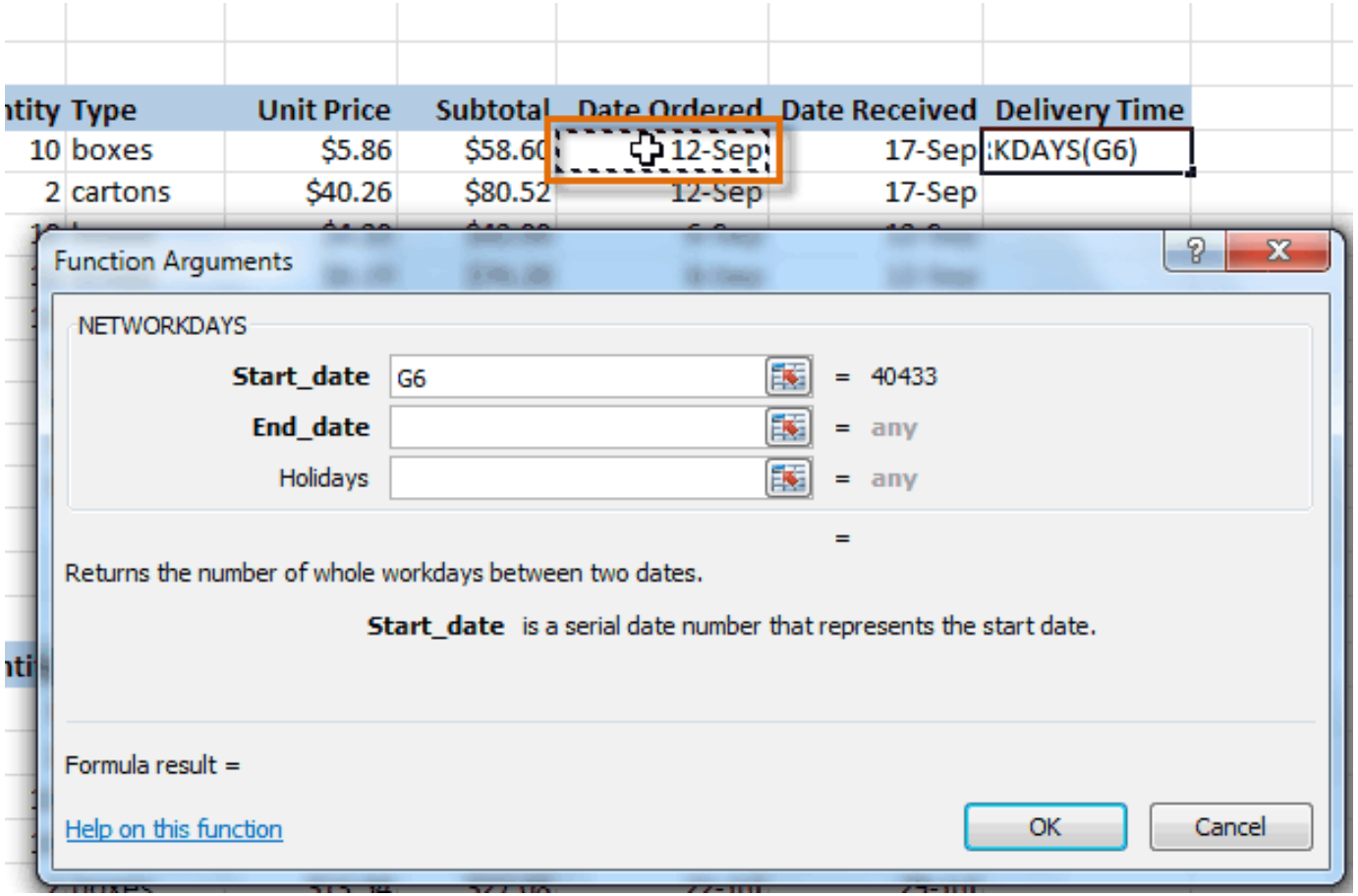


To insert a function from the Function Library:

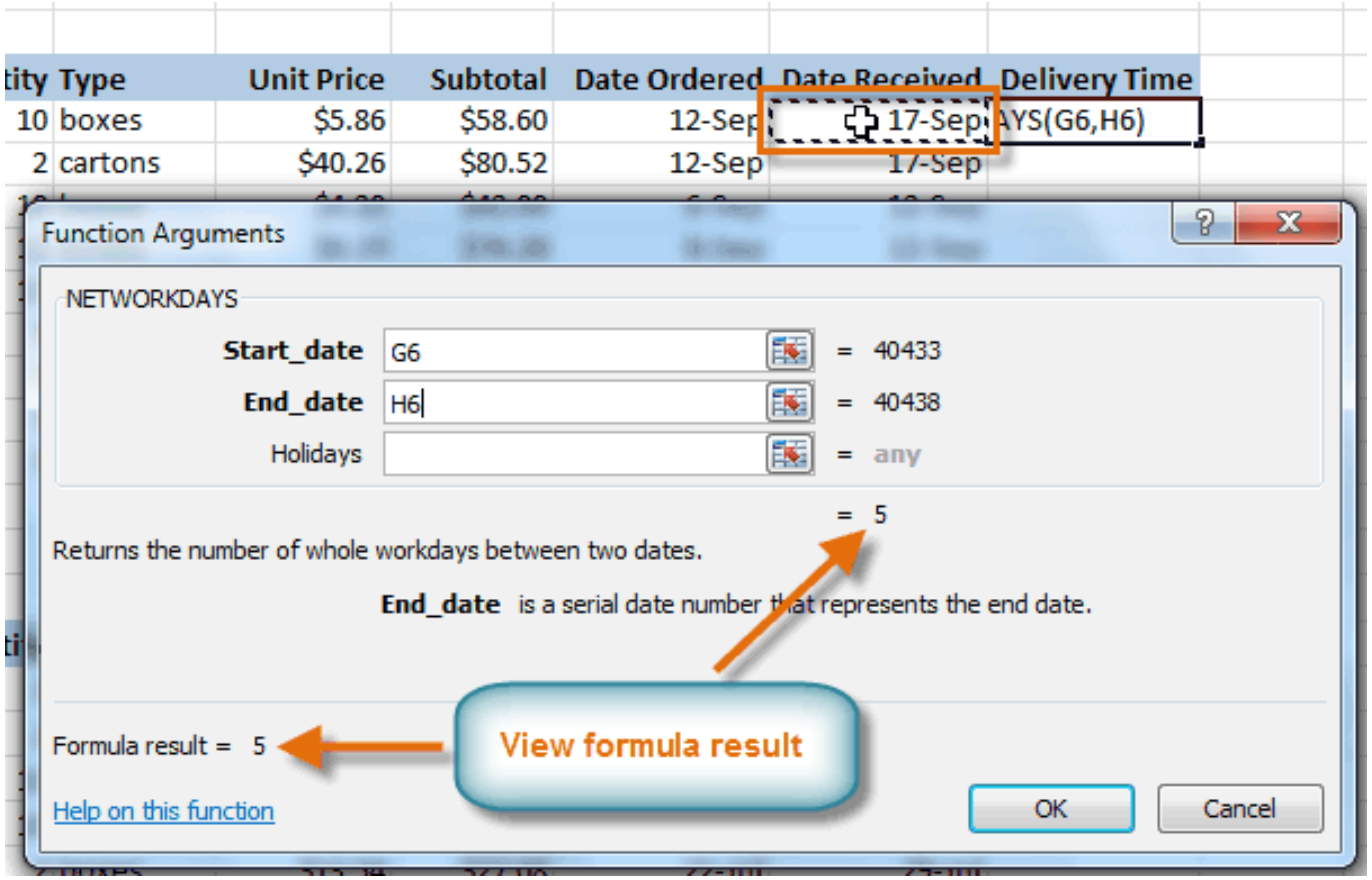


STEPS :

1. Select the **cell** where the answer will appear (I6, for example).
2. Click the **Formulas tab**.
From the **Function Library group**, select the **function category** you want.
In this example, we'll choose Date & Time.
3. Select the **desired function** from the **Date & Time drop-down menu**. We'll choose the NETWORKDAYS function to count the days between the order date and receive date in our worksheet.



4. The Function Arguments dialog box will appear. Insert the cursor in the first field, then enter or select the cell(s) you want (G6, for example).



5. Insert the cursor in the next field, then enter or select the cell(s) you want (H6, for example).

Date Ordered	Date Received	
12-Sep	17-Sep	5

6. Click OK, and the result will appear. Our results show that it took five days to receive the order.

4.4.3 Charts

chart

A chart is a visual representation of numeric values. Charts (also known as graphs) have been an integral part of spreadsheets. Charts generated by early spreadsheet products were quite crude, but thy have improved significantly over the years. Excel provides you with the tools to create a wide variety of highly customizable charts. Displaying data in a well-conceived chart can make your numbers more understandable. Because a chart presents a picture, charts are particularly useful for summarizing a series of numbers and their interrelationships. It can often be difficult to interpret Excel workbooks that contain a lot of data. Chartsallow you to illustrate your workbook data graphically, which makes it easy to visualize comparisons and trends.

Types of Charts

Column : Column chart shows data changes over a period of time or illustrates comparisons among items.

Bar : A bar chart illustrates comparisons among individual items.

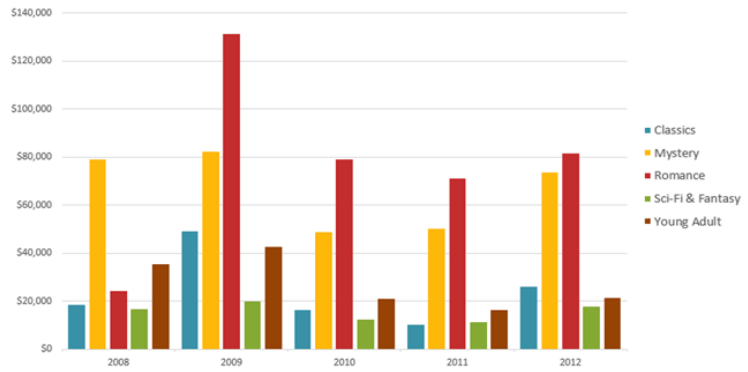
Pie : A pie chart shows the size of items that make up a data series, proportional to the sum of the items. It always shows only one data series and is useful when you want to emphasize a significant element in the data.

Line : A line chart shows trends in data at equal intervals.

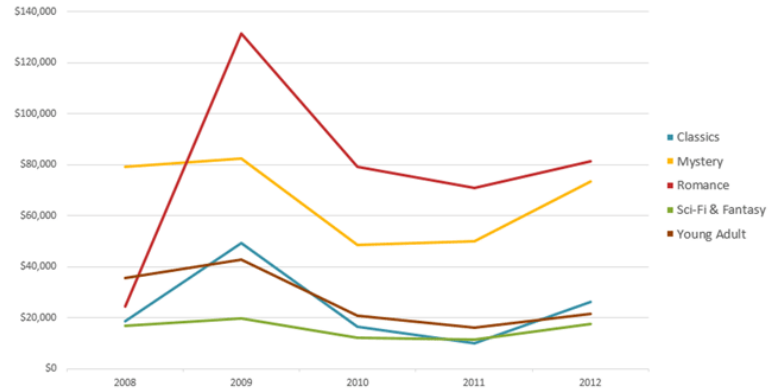
Area : An area chart emphasizes the magnitude of change over time.

Surface : A surface chart is useful when you want to find the optimum combinations between two sets of data. As in a topographic map, colors and patterns indicate areas that are in the same range of values.

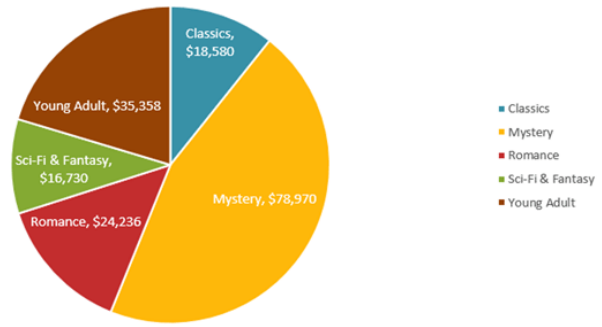
Column



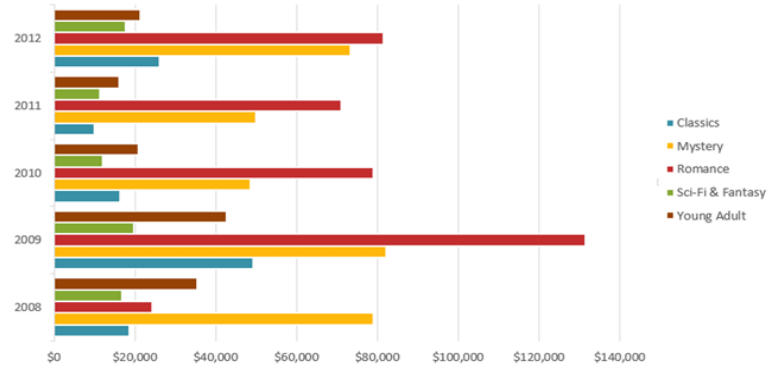
Line



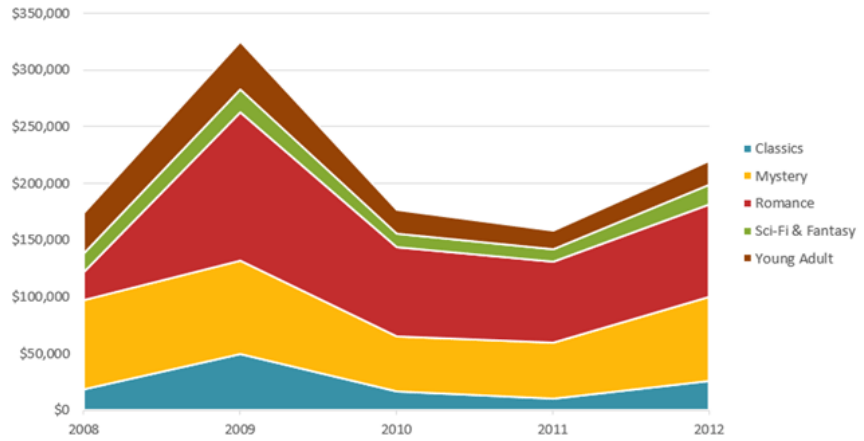
Pie



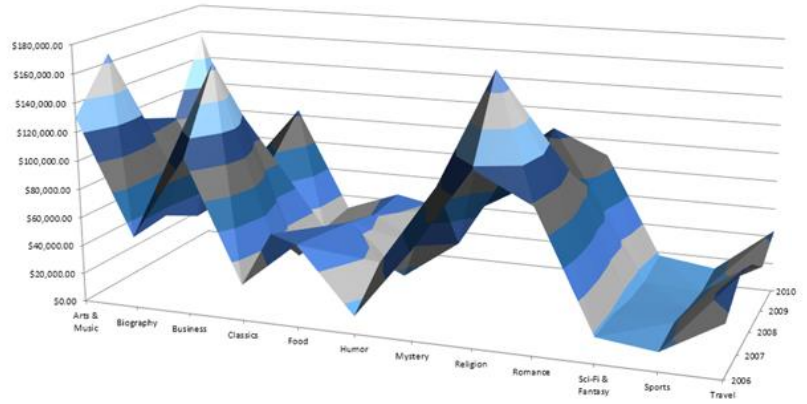
Bar



Area



Surface

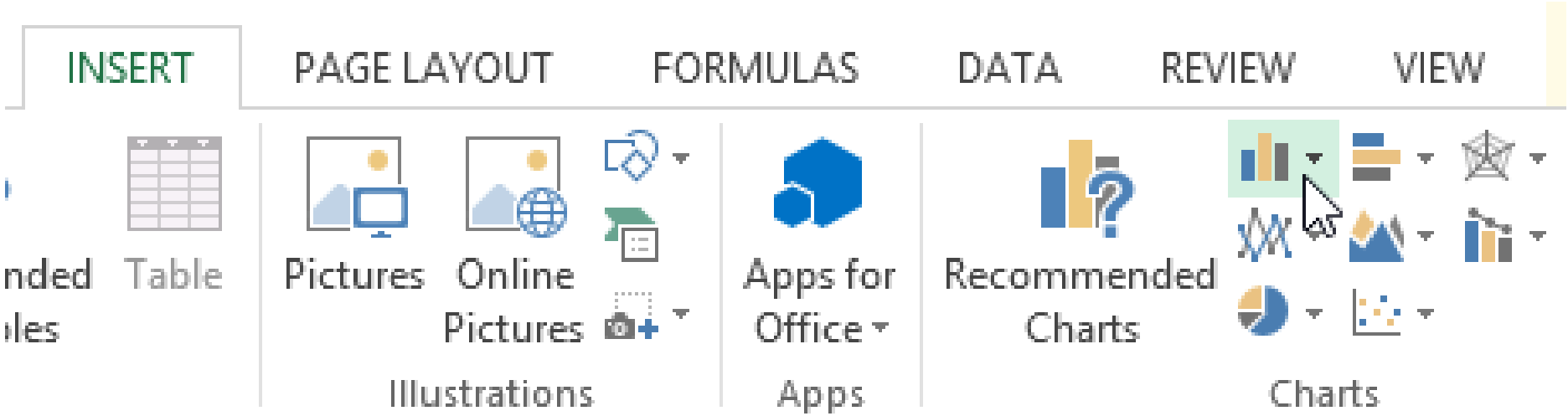


To insert a chart:

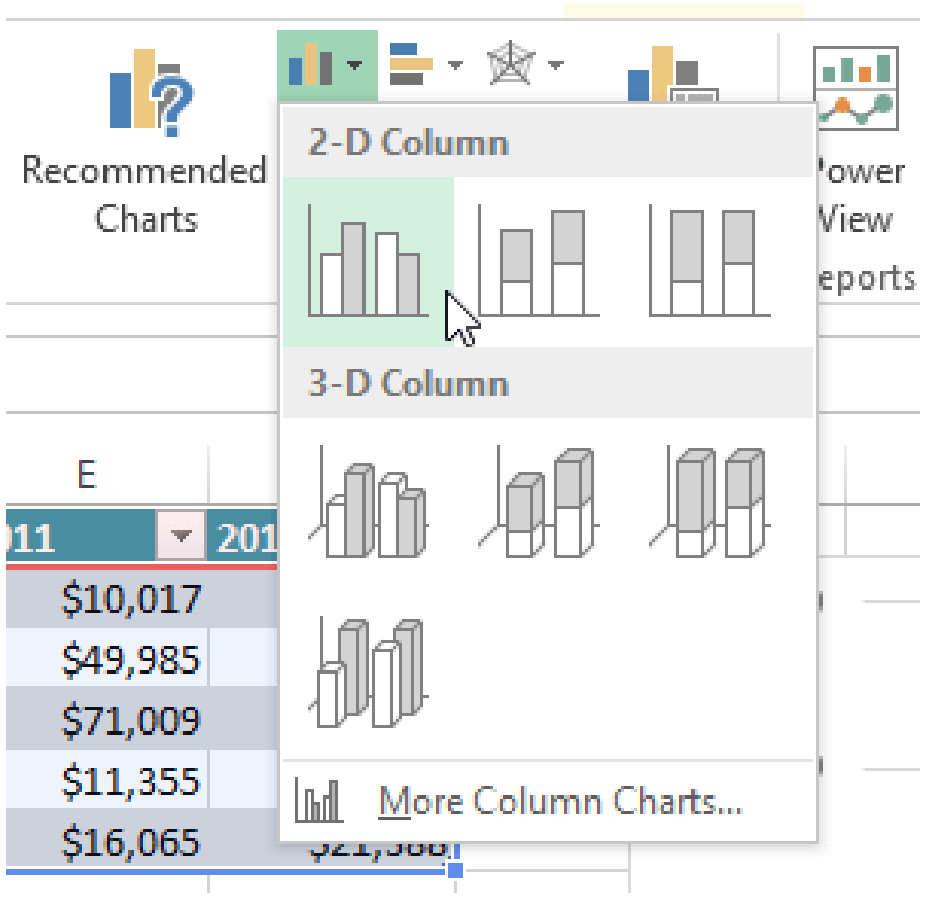
	A	B	C	D	E	F	G
1	Genre	2008	2009	2010	2011	2012	
2	Classics	$18,580	$49,225	$16,326	$10,017	$26,134	
3	Mystery	$78,970	$82,262	$48,640	$49,985	$73,428	
4	Romance	$24,236	$131,390	$79,022	$71,009	$81,474	
5	Sci-Fi & Fantasy	$16,730	$19,730	$12,109	$11,355	$17,686	
6	Young Adult	$35,358	$42,685	$20,893	$16,065	$21,388	
7							
8							

STEPS :

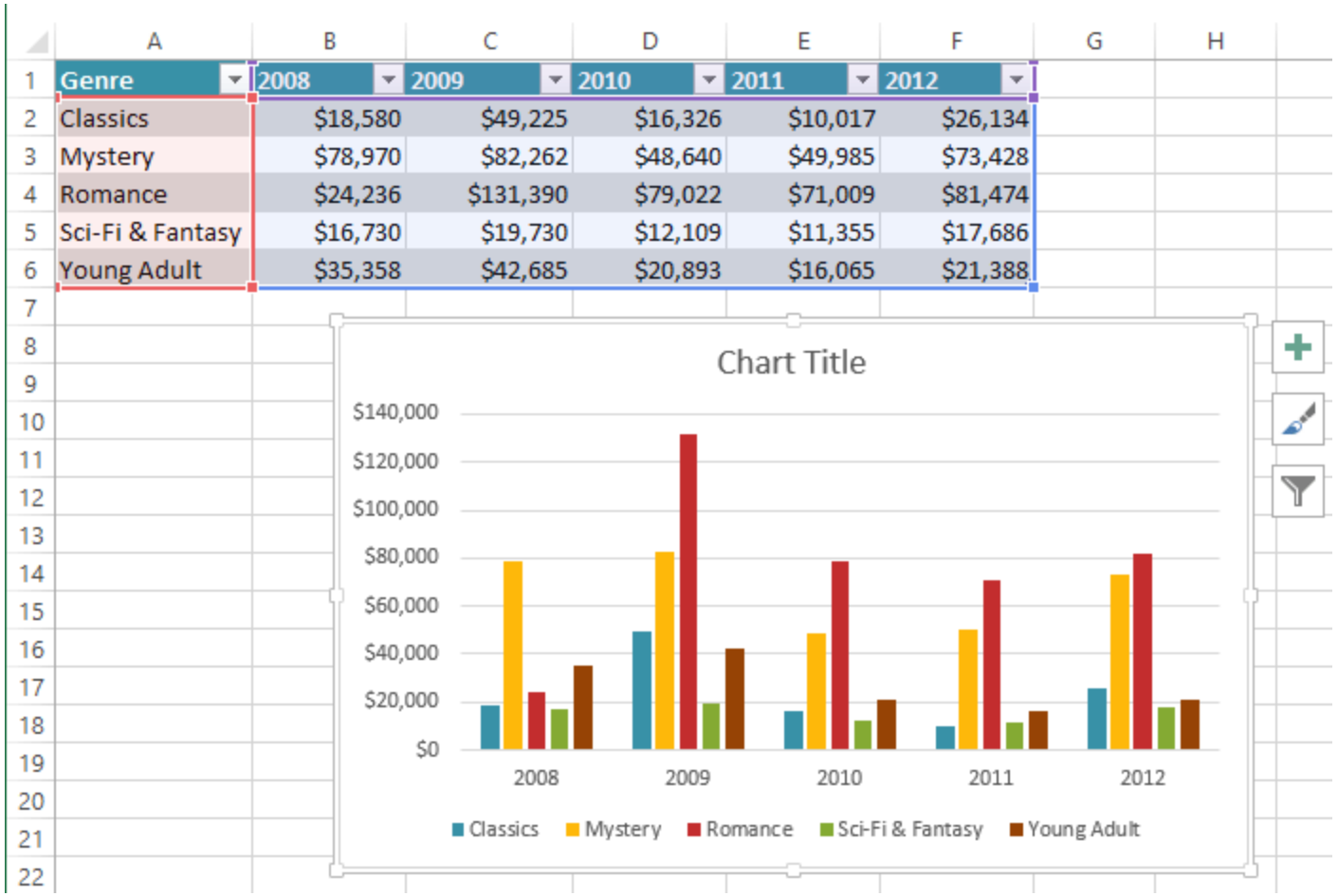
1. Select the cells you want to chart, including the column titles and row labels. These cells will be the source data for the chart. In our example, we'll select cells A1:F6.



2. From the Insert tab, click the desired Chart command. In our example, we'll select Column.

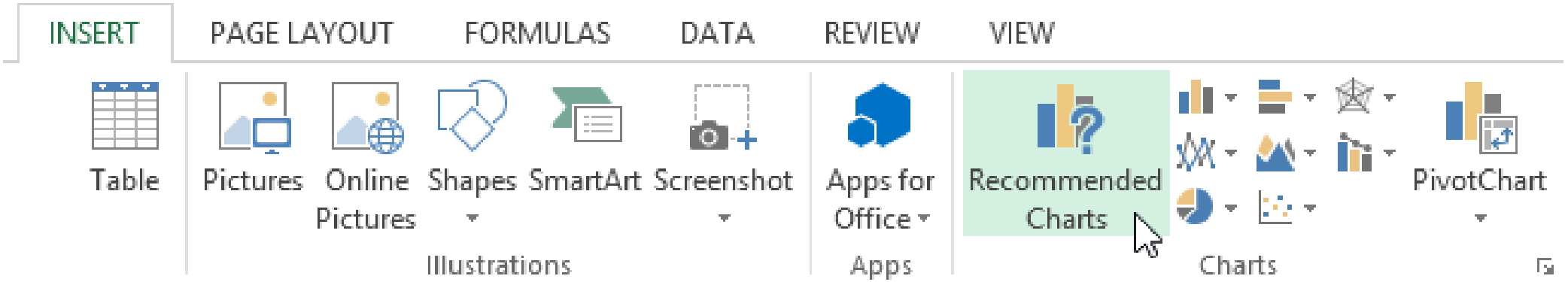


3. Choose the desired chart type from the drop-down menu.



	A	B	C	D	E	F
1	Genre	2008	2009	2010	2011	2012
2	Classics	$18,580	$49,225	$16,326	$10,017	$26,134
3	Mystery	$78,970	$82,262	$48,640	$49,985	$73,428
4	Romance	$24,236	$131,390	$79,022	$71,009	$81,474
5	Sci-Fi & Fantasy	$16,730	$19,730	$12,109	$11,355	$17,686
6	Young Adult	$35,358	$42,685	$20,893	$16,065	$21,388

4. The selected chart will be inserted in the worksheet.

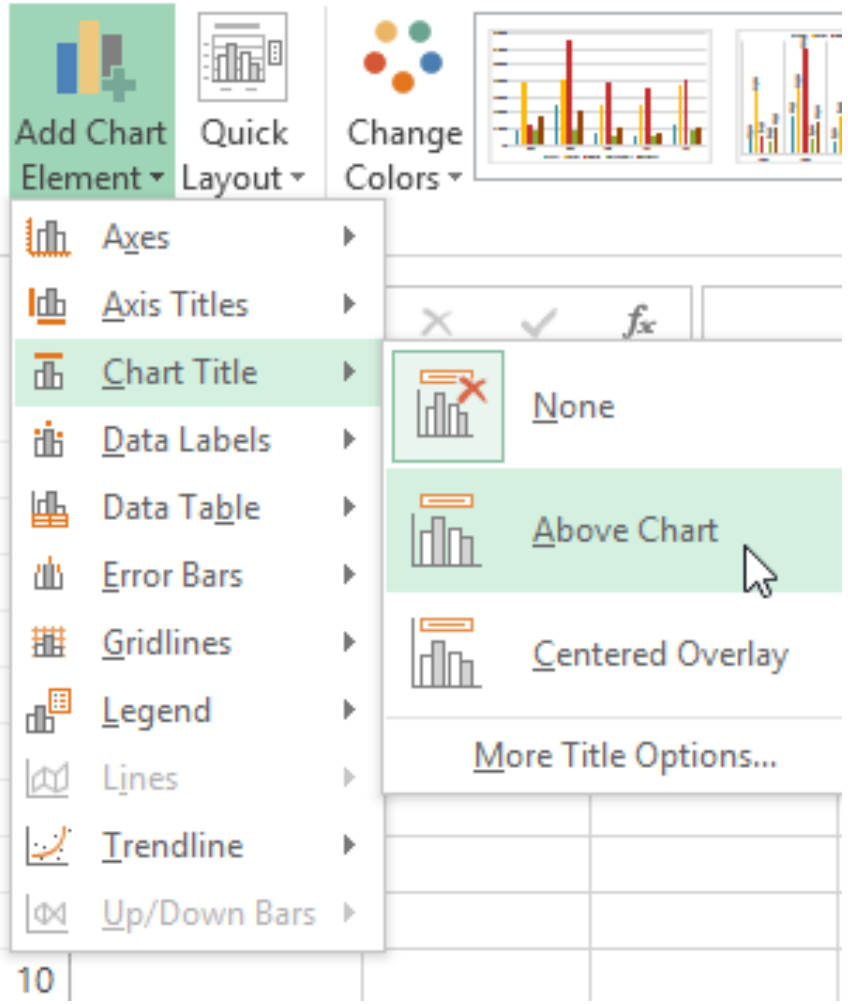


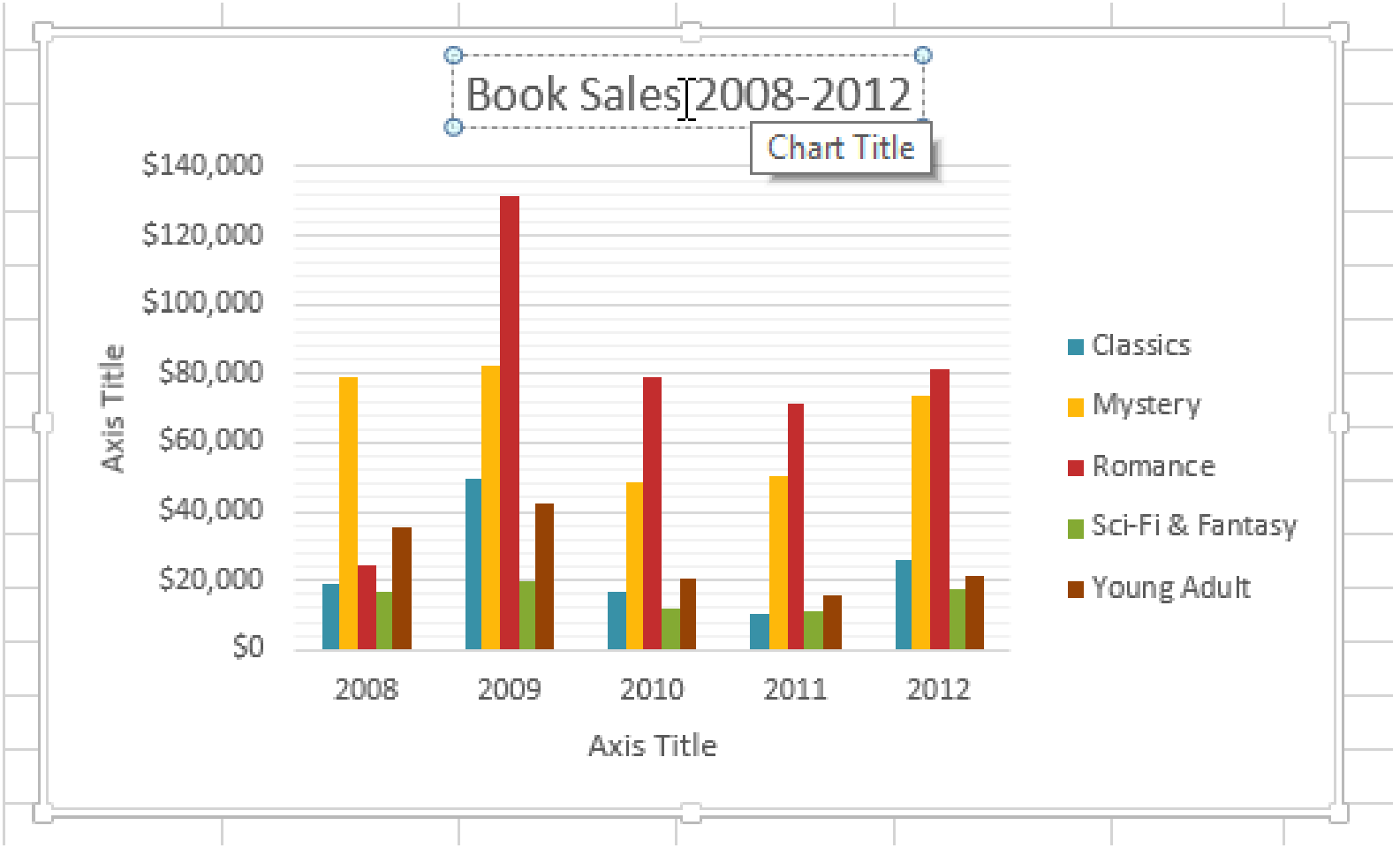
If you're not sure which type of chart to use, the Recommended Charts command will suggest several different charts based on the source data.

Chart layout and style

After inserting a chart, there are several things you may want to change about the way your data is displayed. It's easy to edit a chart's layout and style from the Design tab.

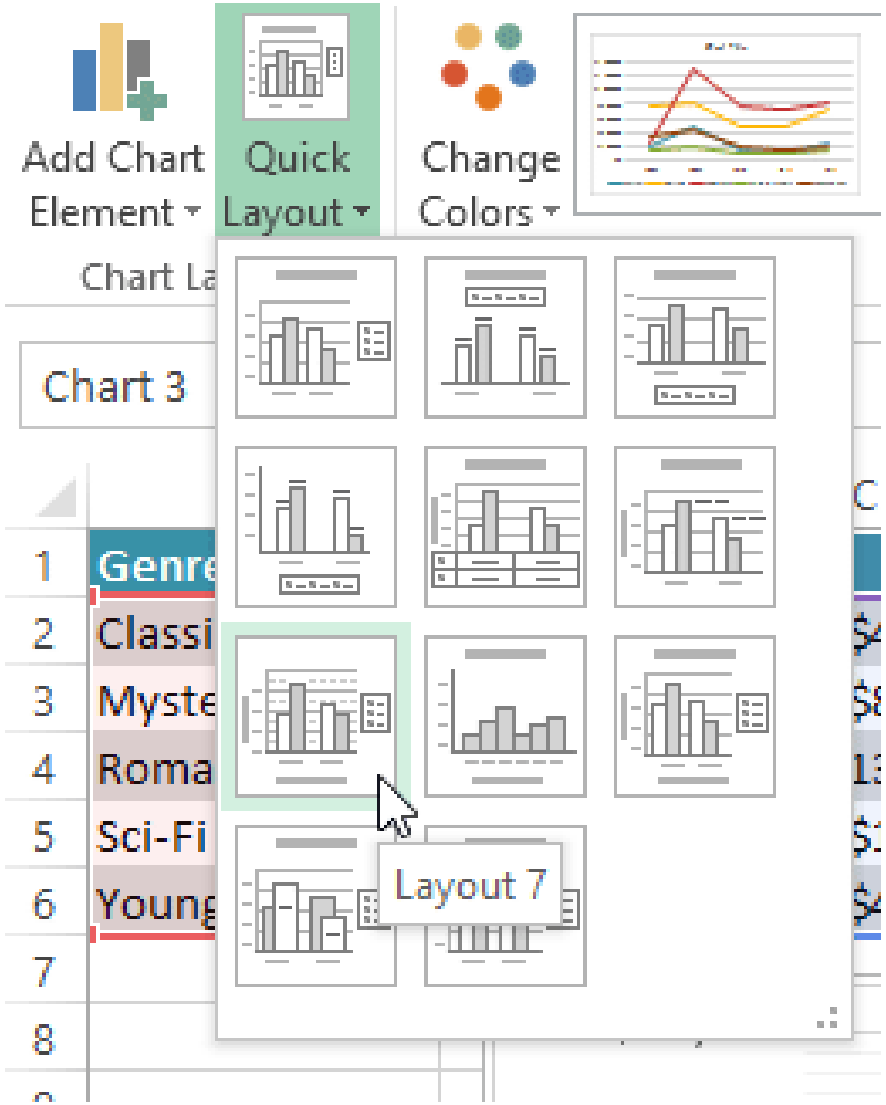
Excel allows you to add chart elements—such as chart titles, legends, and data labels—to make your chart easier to read. To add a chart element, click the Add Chart Element command on the Design tab, then choose the desired element from the drop-down menu.



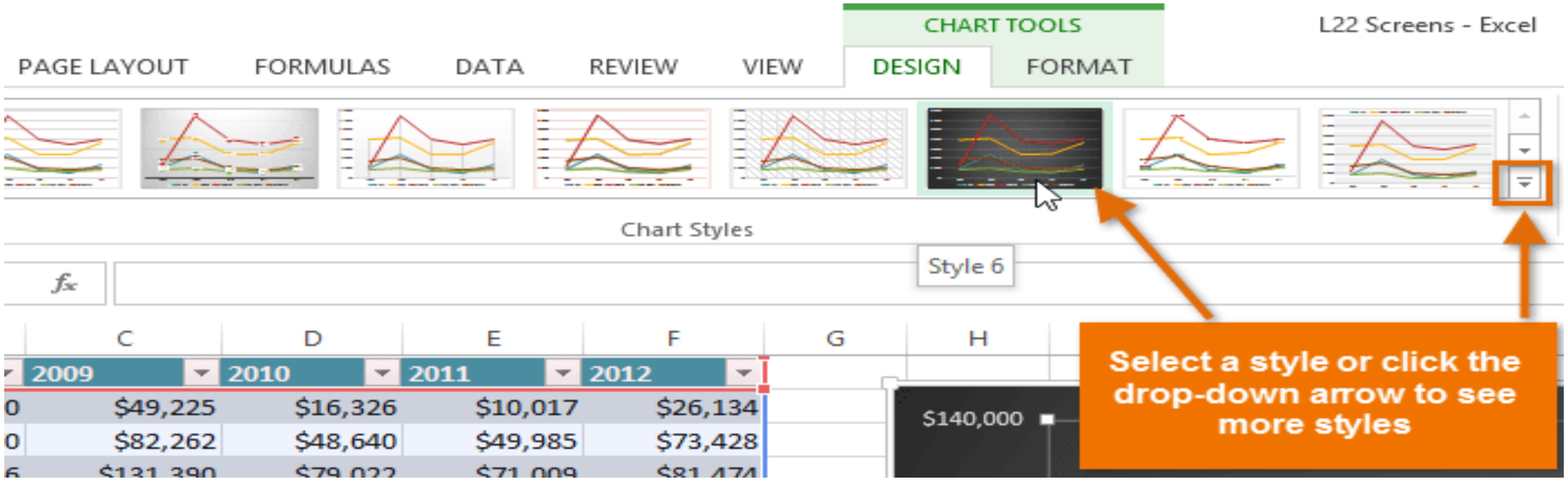


STEPS :

1. To edit a chart element, like a chart title, simply double-click the placeholder and begin typing.

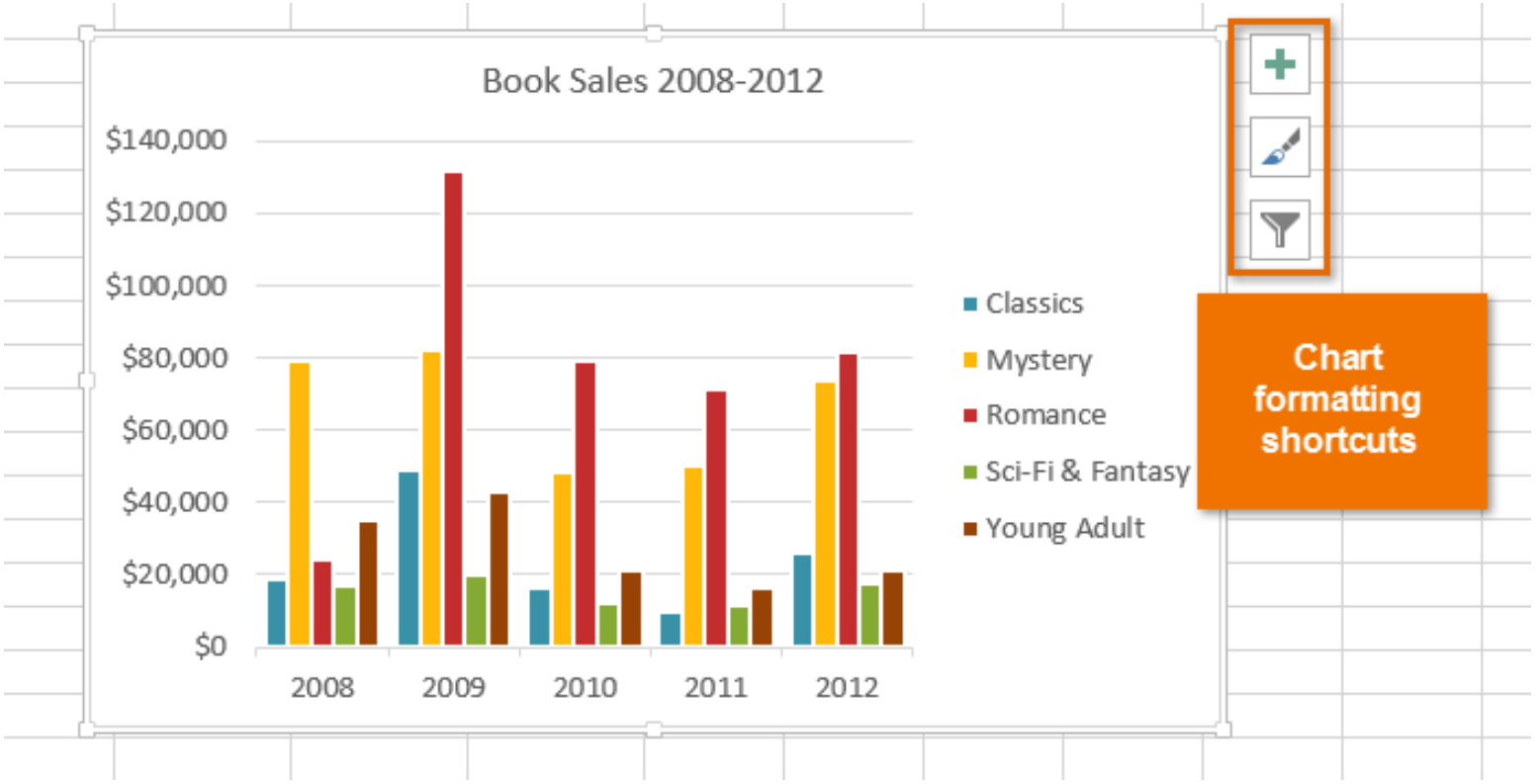


2. If you don't want to add chart elements individually, you can use one of Excel's predefined layouts. Simply **click the Quick Layout command,** then choose the **desired layout** from the **drop-down menu.**



Excel also includes several different chart styles, which allow you to quickly modify the look and feel of your chart. To change the chart style,

3. select the desired style from the Chart styles group.



4. You can also use the chart formatting shortcut buttons to quickly add chart elements, change the chart style, and filter the chart data.

SUMMARY

In this Chapter you learned

- Opening an Excel Sheet
- Manipulating data
- Applying formula
- Making charts with the data
- Printing the sheet

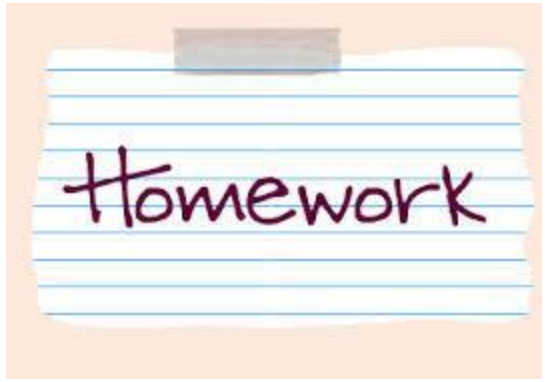
Q 1. What is MS Excel?

Q 2.What is chart?

Q 3.What is formula?

Q 4.How do you modify cell height?

Q 5.How will you print a Worksheet?



Q 1. Write the groups name inside insert tab?

Q 2. Write short cut key to fine total row and column?

Q 3. Write steps for adding 2 numbers ?

Q 4. Apply filter on a table for employee data?

Q 5. How to merge 2 cells write steps?

Q 6. How to Apply if condition Explain give an example?

Q 7. How to go on new window from working sheet?