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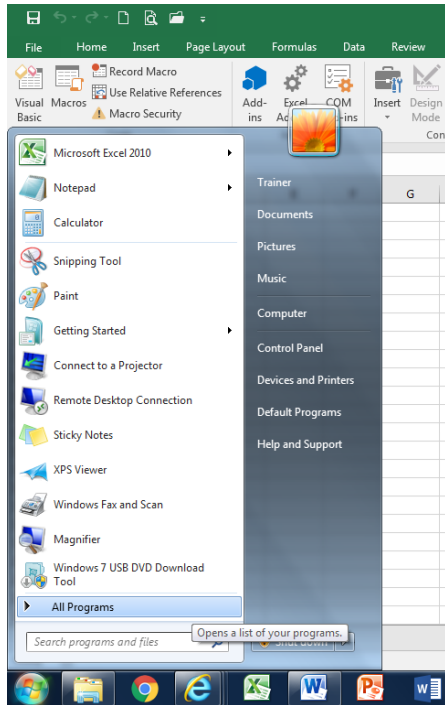
Module One: Getting Started

In this module, we will discuss how to open and close Excel. We will take a look at the interface and the new Backstage View. We will also explore the difference between worksheets and workbooks.

Opening Excel

Use the following procedure to start Excel.

1. Select **START** (or press the Windows key on the keyboard) to open the Start menu.



2. Select **ALL PROGRAMS**.
3. Next, highlight the Microsoft Office program group. Select **MICROSOFT OFFICE EXCEL2016**.

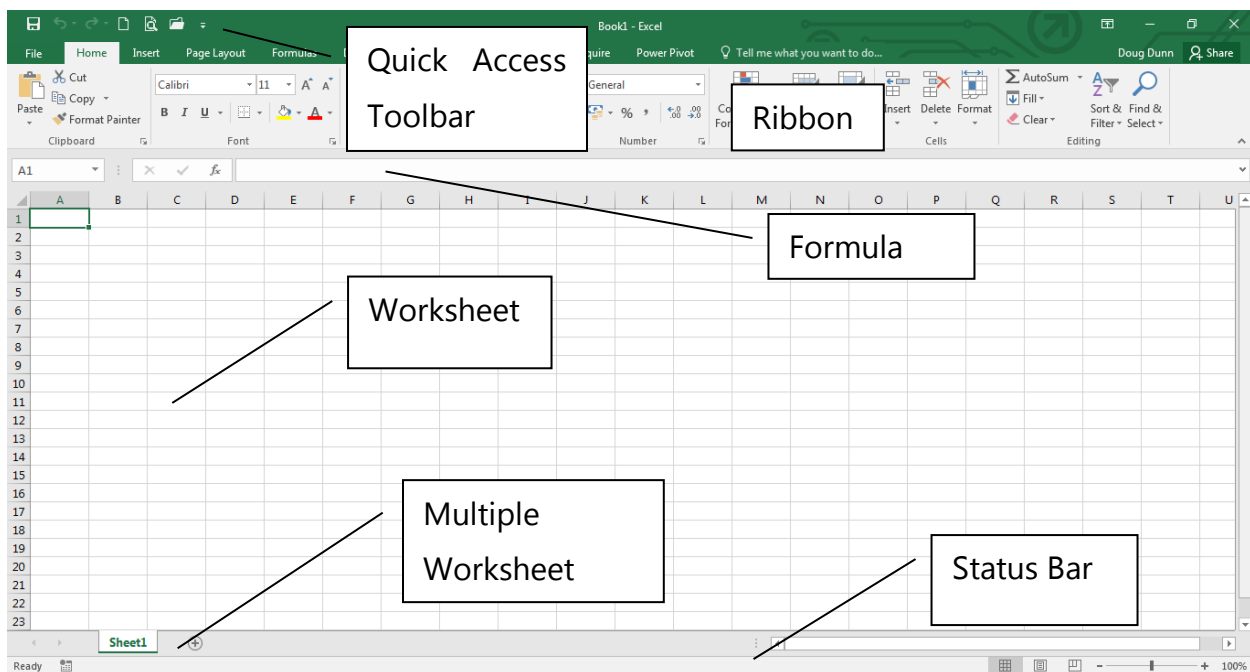
Understanding the Interface

Excel 2010 has a new interface that builds on interface from the previous version of Excel. Excel 2010 uses the **RIBBON** interface that was introduced in Microsoft Office 2007 applications. Each **TAB** in the **RIBBON** contains many tools for working with your document. To display a different set of commands, click the tab name. **BUTTONS** are organized into groups according to their function.

In addition to the **TABS**, Excel 2010 also makes use of the **QUICK ACCESS TOOLBAR** from the MS Office 2007 applications.

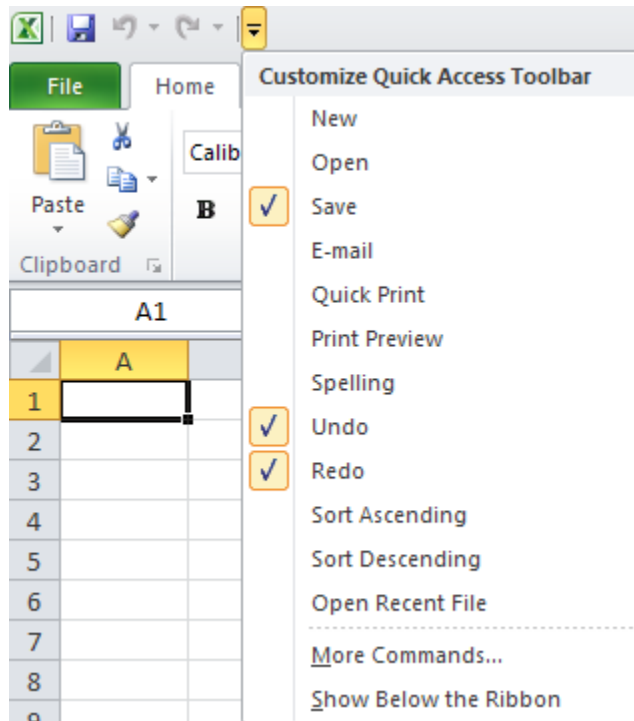
The Formula bar is where you can edit contents of a cell. The Status Bar includes information about your worksheet when you highlight different cells.

View the Excel interface, including the Ribbon, worksheet area, the Formula Bar, the Quick Access toolbar, and the Status Bar.



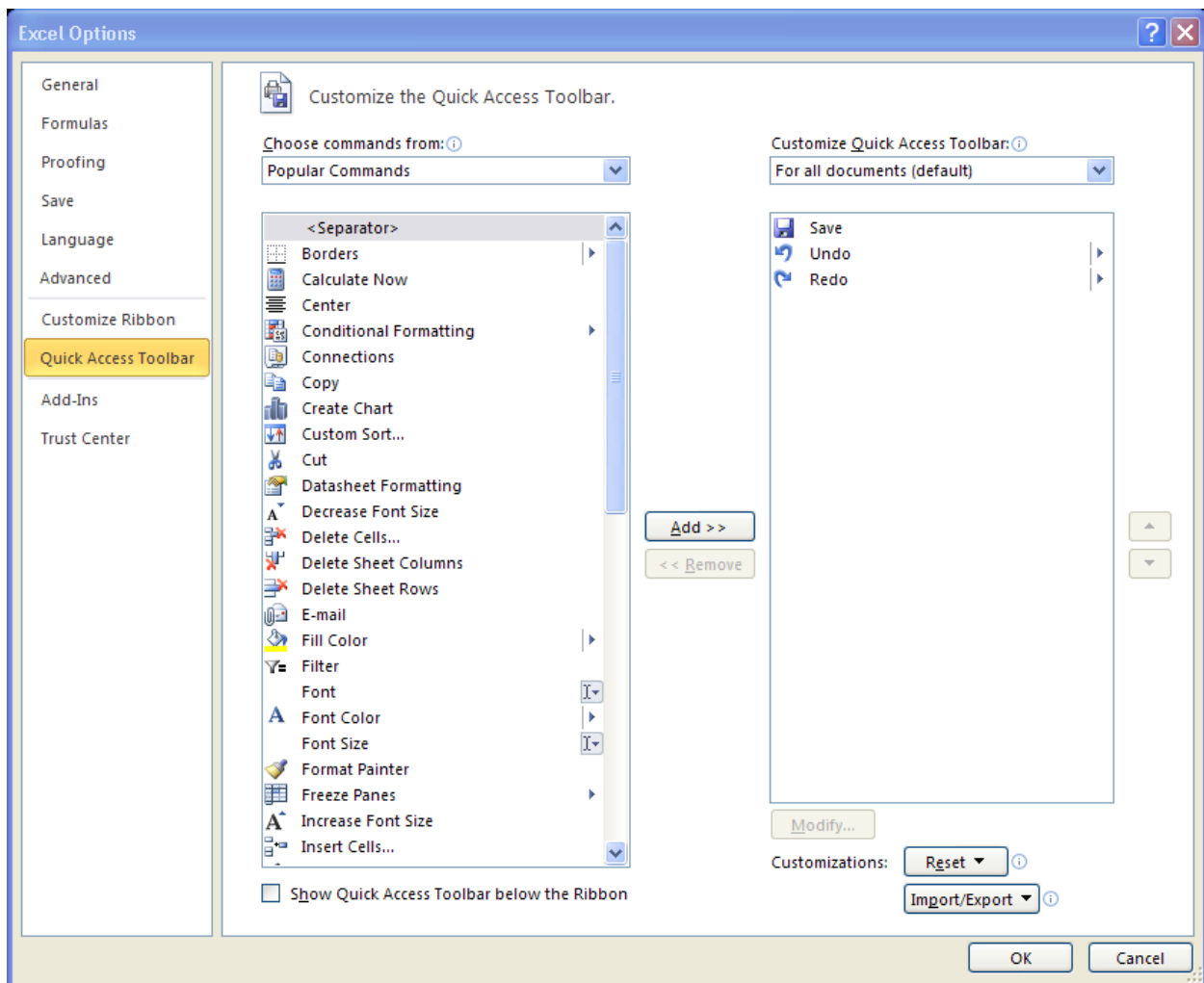
Use the following procedure to customize the Quick Access Toolbar.

1. Select the arrow next to the Quick Access Toolbar.



Add an item to the Quick Access Toolbar by selecting it from the list. You can remove an item by reopening the list and selecting the item again.

If you select More Commands, Excel opens the Customize window.



To add a command, select the item from the list on the left and select **ADD**. Select **OK** when you have finished.

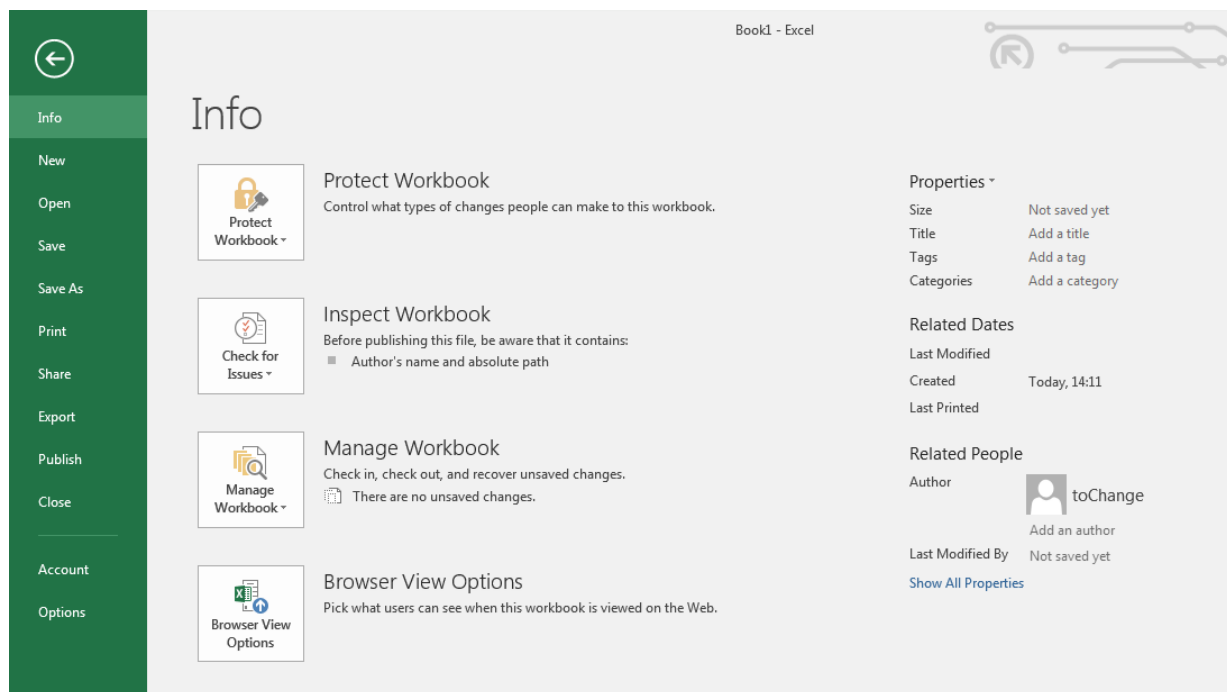
Using Backstage View

Select the **FILE** tab in the Ribbon to open the Backstage view. The Backstage view is where you will find the commands for creating, saving, opening, and closing Excel files, as well as information about the current workbook. The Backstage view includes new interfaces for printing and sharing your workbooks. The Options command is also available to open a new screen for setting your Excel Options.

Use the following procedure to view the Backstage View.

1. Select the **File** tab on the Ribbon.

Excel displays the Backstage View, open to the Info tab by default. A sample is illustrated below.

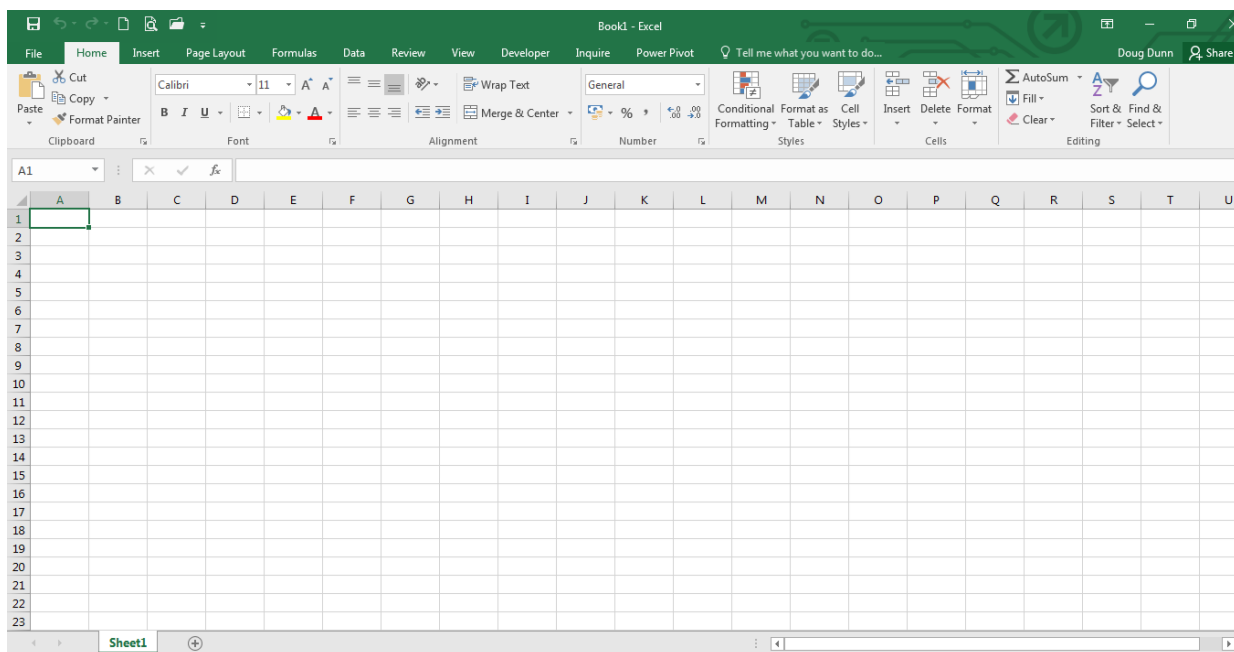


Understanding Worksheets

WORKSHEETS are simply collections of **CELLS**. A cell is the intersection of a **ROW** and a **COLUMN**. Columns labels are letters and row labels are numbers. Only one cell can be active at a time, and that cell is called the **ACTIVE CELL**. You can move around a worksheet using your mouse or your keyboard.

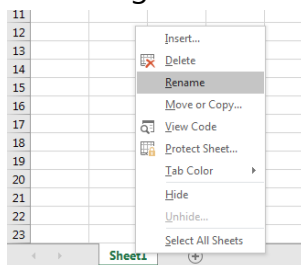
Understanding Workbooks

A **WORKBOOK** is a collection of worksheets. When you save an Excel file, you are actually saving a workbook. A workbook includes 3 worksheets by default when you open a new file. You can change the names of these worksheets and add more worksheets to the workbook. You can also change the order of the worksheets.



Use the following procedure to rename a worksheet.

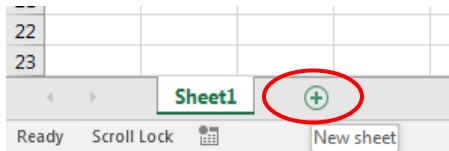
1. Right click on the sheet tab and select **Rename** from the context menu.



2. Enter the new name over the highlighted text.

Use the following procedure to insert a new worksheet.

1. Click the **New Worksheet** button.



Excel opens the new worksheet to the first cell, so that you can begin entering data right away. You can rename the worksheet if needed.

Use the following procedure to move a worksheet.

1. Click on the worksheet tab that you want to move and drag it to the new location in the workbook.

Module Two: Entering and Editing Data

This module introduces you to your first worksheet, where you can enter or edit data. Your worksheets will have a purpose in mind, whether it is to add a series of numbers, like sales figures or expenses, or to track things like inventory or class registrations. Time spent thinking about the structure of your worksheet will pay off later, but you can also add rows and columns at any time to rearrange your data. This module will also introduce the ability to wrap cell contents and check your spelling.

Entering Data

Data is entered into cells. Click the cell you want, and type the desired entry. You can enter either numbers (**VALUES**) or text (**LABELS**) in Excel.

Once you have finished typing, you can press Tab or Enter to complete the entry.

When you type data into a cell, all of it is contained in that cell, even if it is not all visible at once. If you cannot see all of the data in your cell, you can widen the column.

In the following example, "Household Budget" and "Car Payment" are both too long for the column width.

	A	B
1	Household Budget	
2	2010	
3		
4	Mortgage	
5	Heat	
6	Power	
7	Phone	
8	Car Payment	
9	Gas	
10	Insurance	
11	Food	

Use the following procedure to widen a column.

1. Click on the column you want to widen. Notice the cursor changes to a cross with double arrows. The screen tips indicate how wide in pixels the column currently is.

A1 Width: 12.29 (91 pixels)			
	A	B	C
1	Household Budget		
2	2010		
3			
4	Mortgage		
5	Heat		
6	Power		
7	Phone		
8	Car Payment		
9	Gas		
10	Insurance		
11	Food		

2. Drag the border to the new width

Editing Data

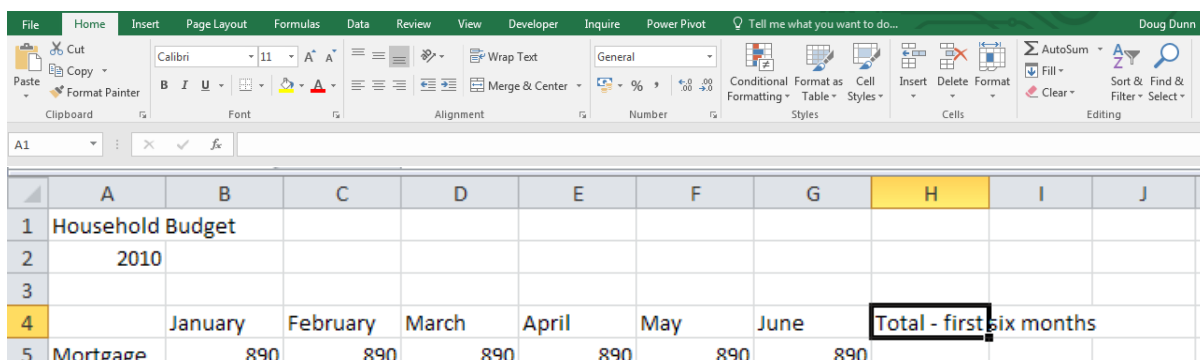
Shown here is the relationship between the active cell and the Formula Bar.

C5		f_x		890	
	A	B	C	D	E
1	Household Budget				
2	2010				
3					
4		January	February	March	April
5	Mortgage	890	890	890	890
6	Heat	250	250	175	125

Using the Wrap Command

Use the following procedure to wrap the contents of a cell that contains a label.

1. Click the cell that you want to wrap.
2. Click the **Wrap Text** tool on the Ribbon.



The screenshot shows the Microsoft Excel interface with the 'Home' ribbon selected. The 'Wrap Text' button in the 'Alignment' group is highlighted. In the worksheet, cell H4 is selected and contains the text 'Total - first six months', which is wrapped across two lines. The formula bar at the top shows the active cell is A1.

	A	B	C	D	E	F	G	H	I	J
1	Household Budget									
2	2010									
3										
4		January	February	March	April	May	June	Total - first six months		
5	Mortgage	890	890	890	890	890	890			

Use the following procedure to force a line break in a cell with wrapped contents.

1. Click on the cell with wrapped contents. The contents appear in the Formula Bar.
2. Place your cursor on the Formula Bar where you would like to force a line break.
Press **Alt+ ENTER**.

H4 X ✓ fx first six months								
	A	B	C	D	E	F	G	H
1	Household Budget							
2	2010							
3								
4		January	February	March	April	May	June	first six mo
5	Mortgage	890	890	890	890	890	890	
6	Heat	250	250	175	125	80	0	

H4 fx Total -								
	A	B	C	D	E	F	G	H
1	Household Budget							
2	2010							
3								
4		January	February	March	April	May	June	Total - first six months
5	Mortgage	890	890	890	890	890	890	
6	Heat	250	250	175	125	80	0	

Adding Rows and Columns

New columns are inserted to the left of your currently selected column, and new rows are inserted above your currently selected row.

Use the following procedure to add a new row.

1. Highlight the row below where you want to insert a row. Click to the left of the row number to highlight the whole row.

		January	February	March	April	May	June	Total - first six months
4								
5	Mortgage	890	890	890	890	890	890	
6	Heat	250	250	175	125	80	0	
7	Power	225	225	175	175	150	150	
8	Phone	65	75	65	65	75	75	
9	Car Paymer	275	275	275	275	275	275	
10	Gas	240	240	360	240	240	240	
11	Insrance	180	180	180	180	180	180	
12	Food	600	600	600	600	600	600	

2. Select **Insert Sheet Rows** from the Ribbon.

The screenshot shows the Microsoft Excel interface. The 'Insert' ribbon is active, and the 'Insert Sheet Rows' option is highlighted in the 'Insert' group. Below the ribbon, the spreadsheet is visible. The first two rows are labeled 'Household Budget' and '2010'. The next row is empty. The following rows are labeled with months: January, February, March, April, May, June. The next row is labeled 'Total - first six months'. The following rows are labeled with expenses: Mortgage, Heat, Power, Phone, Car Paymer, Gas, Insrance, Food. The 'Phone' row (row 8) is highlighted in blue.

	January	February	March	April	May	June	Total - first six months
Mortgage	890	890	890	890	890	890	
Heat	250	250	175	125	80	0	
Power	225	225	175	175	150	150	
Phone	65	75	65	65	75	75	
Car Paymer	275	275	275	275	275	275	
Gas	240	240	360	240	240	240	
Insrance	180	180	180	180	180	180	
Food	600	600	600	600	600	600	

The new row is highlighted.

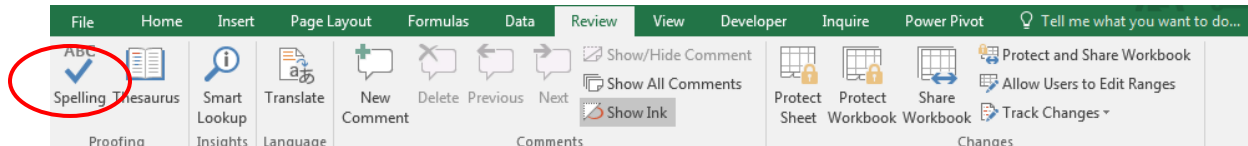
A8		fx						
	A	B	C	D	E	F	G	H
1	Household Budget							
2	2010							
3								
4		January	February	March	April	May	June	Total - first six months
5	Mortgage	890	890	890	890	890	890	
6	Heat	250	250	175	125	80	0	
7	Power	225	225	175	175	150	150	
8								
9	Phone	65	75	65	65	75	75	
10	Car Paymer	275	275	275	275	275	275	
11	Gas	240	240	360	240	240	240	
12	Insrance	180	180	180	180	180	180	
13	Food	600	600	600	600	600	600	

Checking Your Spelling

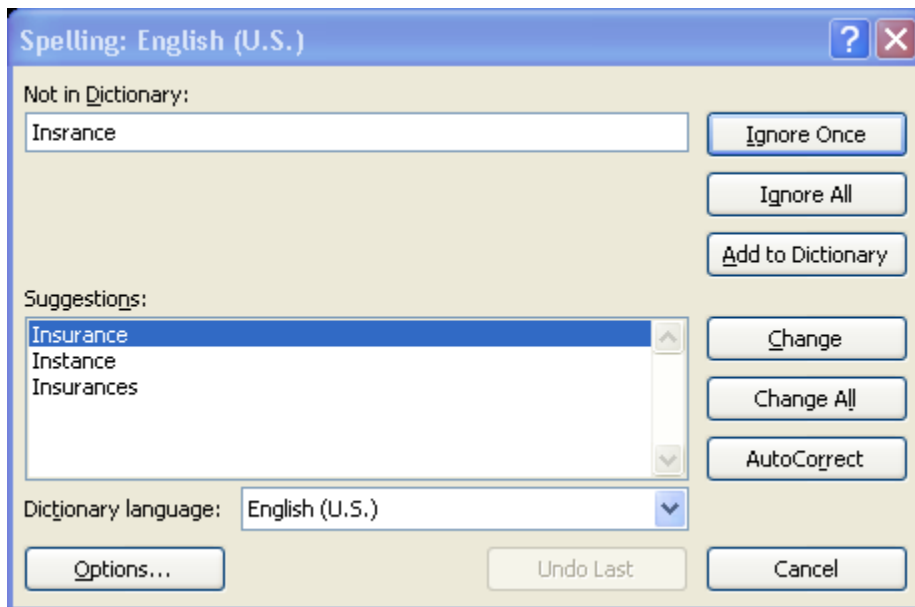
To check your spelling, display the Review tab, and click the Spelling button (in the Proofing group).

Use the following procedure to check spelling.

1. Select the **Spelling** tool on the **Review** tab of the Ribbon.



Excel opens the **Spelling** dialog box and begins indicating any spelling errors.



2. Highlight the correct spelling and select Change. If the correct spelling is not listed, you can correct the spelling by editing the text in the **Not in Dictionary** field.

Module Three: Building Formulas

The backbone of Excel is its ability to perform calculations. There are two ways to set up calculations in Excel: using formulas or using functions. Formulas are mathematical expressions that you build yourself. You need to follow proper math principles in order to obtain the expected answer. Building the formula is simply a matter of combining the proper cell addresses with the correct operators in the right order. This module will explore how to build, edit, and copy formulas. This module will also explain the difference between relative and absolute references. We will explore functions in the next module.

The Math Basics of Excel

Excel performs calculations by combining the contents of cells using operators. There are several different types of operators to perform arithmetic, comparisons, and text concatenation operations, as well as to provide references to use in those calculations.

Review the different types of operators.

The Arithmetic operators are:

- + Plus Sign – Adds values
- – Minus Sign – Subtracts values
- * Asterisk – Multiplies values
- / Forward slash – Divides values
- % Percent sign – Finds the percentage of a value
- ^ Caret – Exponentiation – Finds the exponential value

The Comparison operators are:

- = Equals sign – Equates values
- > Greater than sign – Indicates that one value is greater than the other
- < Less than sign – Indicates that one value is less than the other
- >= Greater than or equal to – Indicates that one value is greater than or equal to the other
- <= Less than or equal to – Indicates that one value is less than or equal to the other
- <> Not Equal – Indicates that values are not equal

Text concatenation allows you to combine text from different cells into a single piece of text. The operator is the **&** sign.

The reference operators combine a range of cells to use together in an operation. The reference operators are:

- : Colon – A Range operator that produces a reference to all of the cells between the references on either side of the colon
- , Comma – A Union operator that combines multiple range references
- Space – An intersection operator that returns a reference to the cells common to the ranges in the formula

Building a Formula

All formulas begin with the = symbol. To enter a formula, click the cell where you want the formula and begin typing. When you click on another cell, the contents of that cell will be included in the formula. Press Enter when you have finished entering the formula.

Use the following procedure to enter a formula to calculate the Total Value in the sample worksheet

1. Click on the Total Value column for the first product (cell D4).
2. Enter the = sign to begin the formula.
3. Click on cell B4 to use it as the first value in the formula. Excel enters the reference as part of the formula.

SUM X ✓ fx =B4						
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	=B4	20	
5	DSP4543	14	\$ 124.50		10	

4. Enter the * sign.
5. Click on cell C4 to use it as the second value in the formula. Excel enters the references as part of the formula.

SUM X ✓ fx =B4*C4						
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	=B4*C4	20	

6. Press **ENTER** to complete the formula. Excel moves to the next row and performs the calculations in the formula.

The following illustration shows the answer to the calculation in the cell, and since the cell is active, you can see the formula in the Formula bar.

D4		fx		=B4*C4		
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$6,471.14	20	

Editing a Formula

If you have made an error in a formula, you can easily correct it. Both the operators and the cell references can be edited.






Use the following procedure to edit a formula. The following example uses an incorrect cell reference in a formula.

1. Click on the cell with the formula you want to correct to make it active.
2. Click on the Formula Bar. Excel highlights the cell references in the current formula.

SUM		✕ ✓ <i>fx</i>		=B4-C4		
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$ 6,471.14	20	=B4-C4
5	DSP4543	14	\$ 124.50		10	

3. Highlight the operator or cell references and either type over with the correct reference or operator, or click the correct cell to replace a cell reference.

SUM		✕ ✓ <i>fx</i>		=B4-C4		
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$ 6,471.14	20	=B4-C4

SUM		   		=B4-E4		
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$ 6,471.14	 20	=B4-E4
5	DSP4543	14	\$ 124.50		10	

- Press ENTER to complete the formula. Excel calculates the formula and moves to the next row.

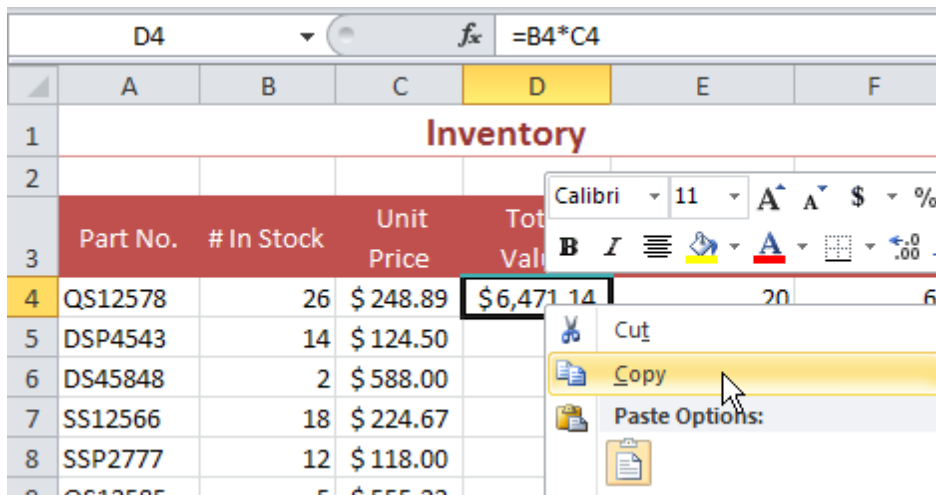
F5 fx						
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$6,471.14	20	6
5	DSP4543	14	\$ 124.50		10	

Copying a Formula

In Excel, you often repeat the same formula, changing only the cells you are referencing. You can easily copy the formula instead of having to re-enter it multiple times. If you are familiar with copy and paste from other applications, this is an easy way to copy a formula. You can also paste in multiple cells at once by highlighting all of them before pasting.

Use the following procedure to copy and paste a formula.

1. Right click on the cell with the formula you want to copy. This displays the context menu. Select **Copy**. You can also click on the cell and use the keyboard shortcut: **CTRL + C**.



Excel highlights the cell whose contents you are copying. This will remain highlighted until you finish pasting, in case you want to paste the cell contents more than once.

2. Right click on the cell where you want to copy the formula. Excel displays a number of paste options. To paste a formula, select **Paste** or **Paste formula**. You can also click on the cell and use the keyboard shortcut: **CTRL + V**.

	A	B	C	D	E	F	G
1	Inventory						
2							
3	Part No.	# In Stock	Unit Price	Total Value			
4	QS12578	26	\$ 248.89	\$6,481.14			
5	DSP4543	14	\$ 124.50	\$1,743.00			
6	DS45848	2	\$ 588.00	\$1,176.00			
7	SS12566	18	\$ 224.67	\$4,044.06			
8	SSP2777	12	\$ 118.00	\$1,416.00			
9	QS12585	5	\$ 555.22	\$2,776.10			
10	DS12566	2	\$ 470.99	\$941.98			
11	DS12556	8	\$ 430.37	\$3,442.96			
12	KSP4333	4	\$ 585.00	\$2,340.00			
13	QP133	12	\$ 255.23	\$3,062.76			
14	KS36678	3	\$ 685.75	\$2,057.25			
15							
16	Tax rate	10%					
17							
18							
19							
20							
21							
22							

3. You can repeat the paste as many times as desired. Or you can highlight multiple cells at once before pasting to repeat the paste for all highlighted cells.
4. Press **ENTER** to stop pasting.

Relative vs. Absolute References

Copying formulas works because of **RELATIVE REFERENCING**. Formula references actually reference the cell relative to the formula location. This means that when you copy the formula, the new formulas reference cells in the same way as the original formula, but relative to the new cell location. However, **ABSOLUTE REFERENCING** references the exact same cell address no matter where the formula is copied. To create an absolute reference in Excel, put dollar signs before the column address and before the row address. For example, \$A\$2.

Use the following procedure to copy a formula with an absolute reference.

1. Create a new column labelled Taxes.
2. Click on the Taxes column for the first product (cell E4).
3. Enter the = sign to begin the formula.
4. Click on cell B16 to use it as the first value in the formula. Excel enters the reference as part of the formula. Use the Formula Bar to enter dollar signs before the column and the row (i.e., \$B\$16).
5. Enter * and the relative reference in the Total Value column.

	A	B	C	D	E	F	G
1	Inventory						
2							
3	Part No.	# In Stock	Unit Price	Total Value	Taxes	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$6,471.14	=B\$16*D4	20	6

6. Press **ENTER** to complete the formula. Excel moves to the next row and performs the calculations in the formula.

Copy the formula for the other products and click on some of them to see the results.

Module Four: Using Excel Functions

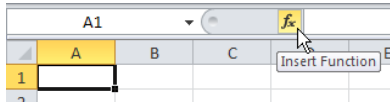
This module introduces Excel functions, which are a little like templates for common formulas. There are many different types of functions. This module will introduce the new function names introduced in Excel 2010. We'll take a look at the Formulas tab introduced in the Ribbon for Excel 2007. We'll look at the SUM function and other basic common functions. Finally, this module will explain how to use the Status Bar to perform simple calculations.

Formulas vs. Functions

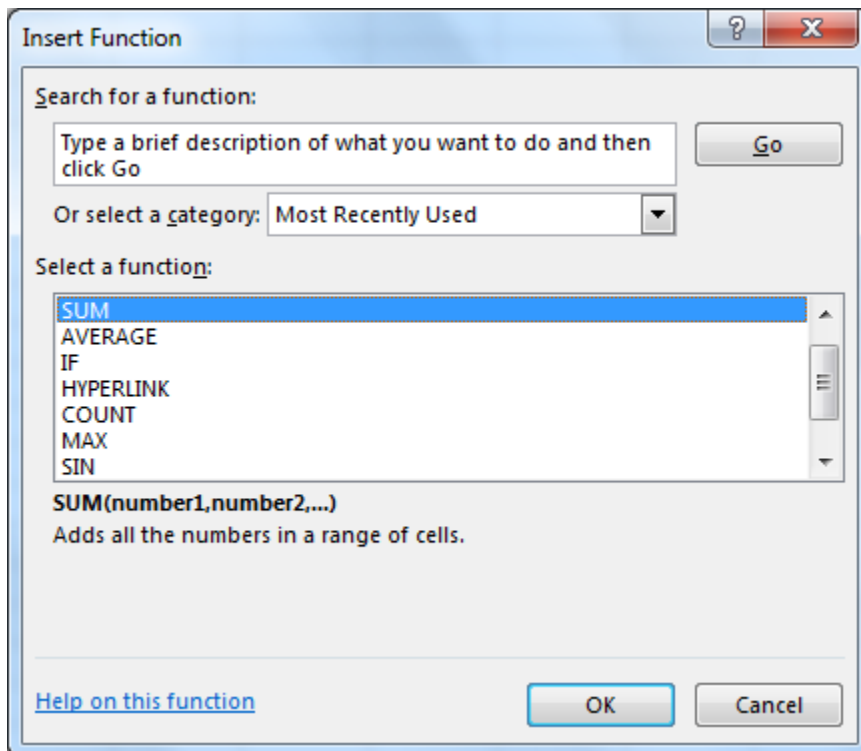
Formulas combine cell references and operators to perform calculations. Functions use function names and arguments. The syntax for a function is always the same: =NAME(Arguments).

Use the following procedure to open the Insert Function dialog box.

1. Click the **Insert Function** tool right next to the Formula Bar.



Investigate the different categories and functions in the Insert Function dialog box. View the bottom part of the screen where the syntax and description of the function appear.

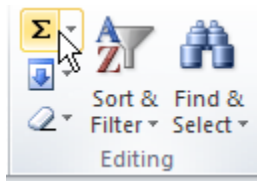


Using the SUM Function

The SUM function adds up a series of numbers. Instead of having to repeatedly type + and click cell references, you can use the SUM function.

Use the following procedure to use a SUM function to add the total for each category in the sample file

1. Click on the Total –First Six Months column for the first category (cell H5).
2. Click on the SUM tool in the Editing Group on the Home tab of the Ribbon.



3. Excel enters the function with a default selection of the cell references you want to use in the function highlighted.

ADDRESS		=SUM(B5:G5)								
	A	B	C	D	E	F	G	H	I	J
1	Household Budget									
2	2010									
3										
4		January	February	March	April	May	June	Total - first six months		
5	Mortgage	890	890	890	890	890	890	=SUM(B5:G5)		
6	Heat	250	250	175	125	80	0	SUM(number1, [number2], ...)		
7	Power	225	225	175	175	150	150			
8										
9	Phone	65	75	65	65	75	75			
10	Car Paymer	275	275	275	275	275	275			
11	Gas	240	240	360	240	240	240			
12	Insurance	180	180	180	180	180	180			
13	Food	600	600	600	600	600	600			
14										

4. If the cell references are not accurate, you can drag the highlighted area to include additional cells or remove cells you do not want used in the function.
5. Press **ENTER** to complete the function.

Excel performs the calculation and moves to the next row. In the following illustration, the cell with the function is active, so that you can see the function syntax in the Formula Bar and the result in the cell.

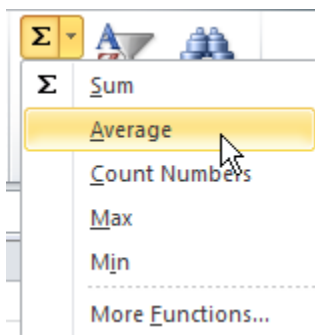
H5		fx		=SUM(B5:G5)				
	A	B	C	D	E	F	G	H
1	Household Budget							
2	2010							
3								
4		January	February	March	April	May	June	Total - first six months
5	Mortgage	890	890	890	890	890	890	5340
6	Heat	250	250	175	125	80	0	
7	Power	225	225	175	175	150	150	
8								
9	Phone	65	75	65	65	75	75	
10	Car Paymer	275	275	275	275	275	275	
11	Gas	240	240	360	240	240	240	
12	Insurance	180	180	180	180	180	180	
13	Food	600	600	600	600	600	600	

Using Other Basic Excel Functions

In addition to the SUM function, there are several other functions that are commonly used. You can access these by clicking the arrow next to the SUM tool on the Ribbon.

Use the following procedure to use the AVERAGE function as an example of another function.

1. Add a new label in column I: Average.
2. Click on the cell in the Average column for the first category.
3. Click on the arrow next to the SUM function to see the list of other common functions.



4. Select **Average**.

Excel enters the function with the most likely cell references.

	A	B	C	D	E	F	G	H	I	J	K
1	Household Budget										
2	2010										
3											
4		January	February	March	April	May	June	Total - first six months	Average		
5	Mortgage	890	890	890	890	890	890	5340	=SUM(B5:H5)		
6	Heat	250	250	175	125	80	0		SUM(number1, [number2], ...)		
7	Power	225	225	175	175	150	150				

5. Replace the cell references so that cell H5 is not included in the average.

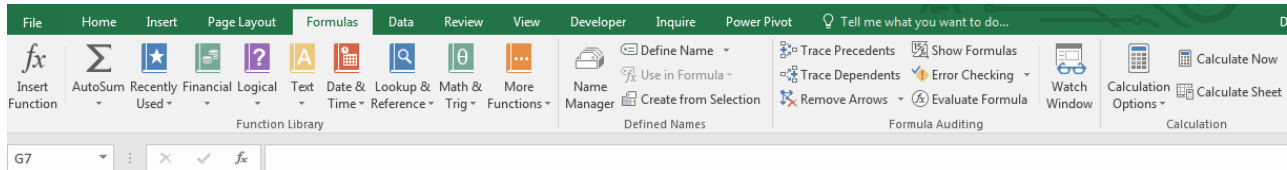
	A	B	C	D	E	F	G	H	I	J	K
1	Household Budget										
2	2010										
3											
4		January	February	March	April	May	June	Total - first six months	Average		
5	Mortgage	890	890	890	890	890	890	5340	=SUM(B5:G5)		
6	Heat	250	250	175	125	80	0		SUM(number1, [number2], ...)		

6. Press **ENTER** to complete the function.

Understanding the Formulas Tab

The Formulas tab on the Ribbon is used to help create functions. You can access Excel's functions in the Function Library group. This saves you the trouble of typing the function name, and provides you with some help entering the arguments.

Shown here is the Formulas tab on the Ribbon.

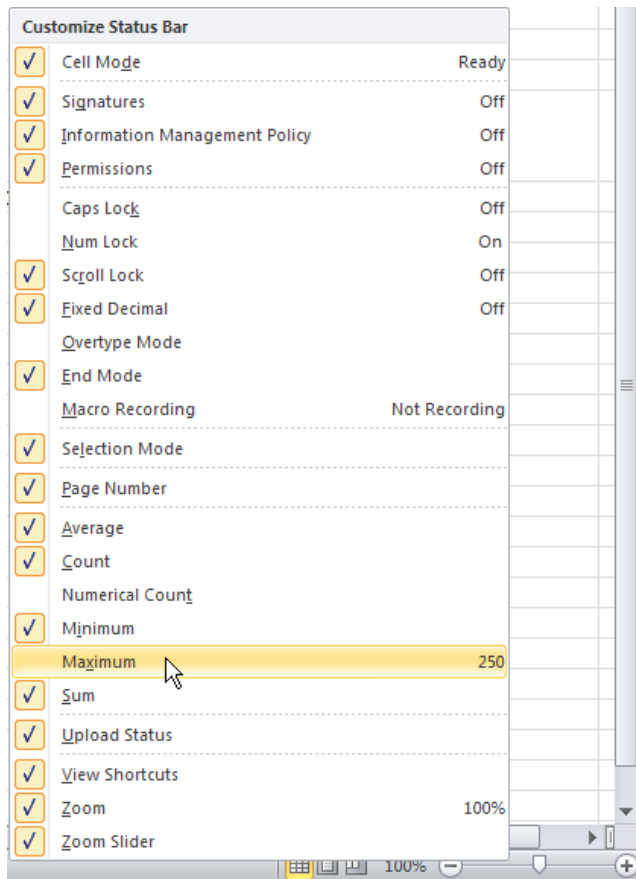


Using the Status Bar to Perform Calculations

To learn how to use the Status Bar to perform basic functions and to learn how to customize the Status Bar.

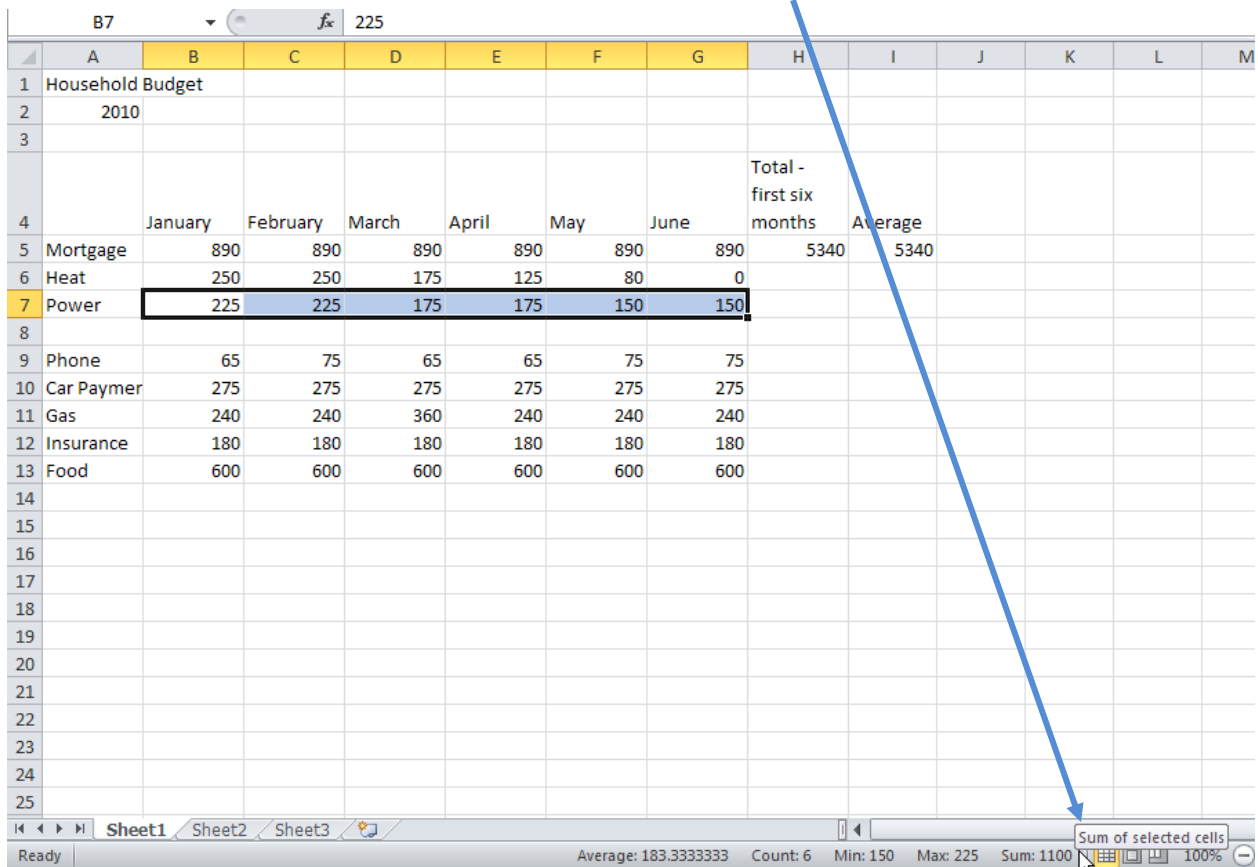
Use the following procedure to customize the Status Bar.

1. Right click on the Status Bar to see a list of Functions that can be displayed. For this example, select MIN and MAX.



2. Press **ESC** or click elsewhere in the worksheet to close the **Customize Status Bar** list.

View the calculations performed when you highlight a group of cells.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Household Budget												
2	2010												
3													
4		January	February	March	April	May	June	Total - first six months	Average				
5	Mortgage	890	890	890	890	890	890	5340	5340				
6	Heat	250	250	175	125	80	0						
7	Power	225	225	175	175	150	150						
8													
9	Phone	65	75	65	65	75	75						
10	Car Paymer	275	275	275	275	275	275						
11	Gas	240	240	360	240	240	240						
12	Insurance	180	180	180	180	180	180						
13	Food	600	600	600	600	600	600						
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													

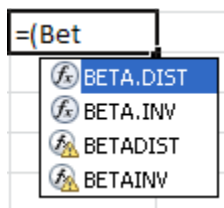
Ready | Average: 183.3333333 | Count: 6 | Min: 150 | Max: 225 | Sum: 1100 | 100%

Understanding the New Function Names

Some of the functions in previous versions of Excel have been renamed. The new functions have improved performance.

The old functions are available if you need backward compatibility. If you do not need compatibility with previous versions of Excel, always use the new function names for best performance.

Shown here are the icons that appear when entering a function name. The old names have a yellow warning triangle next to them.



Module Five: Formatting Your Data

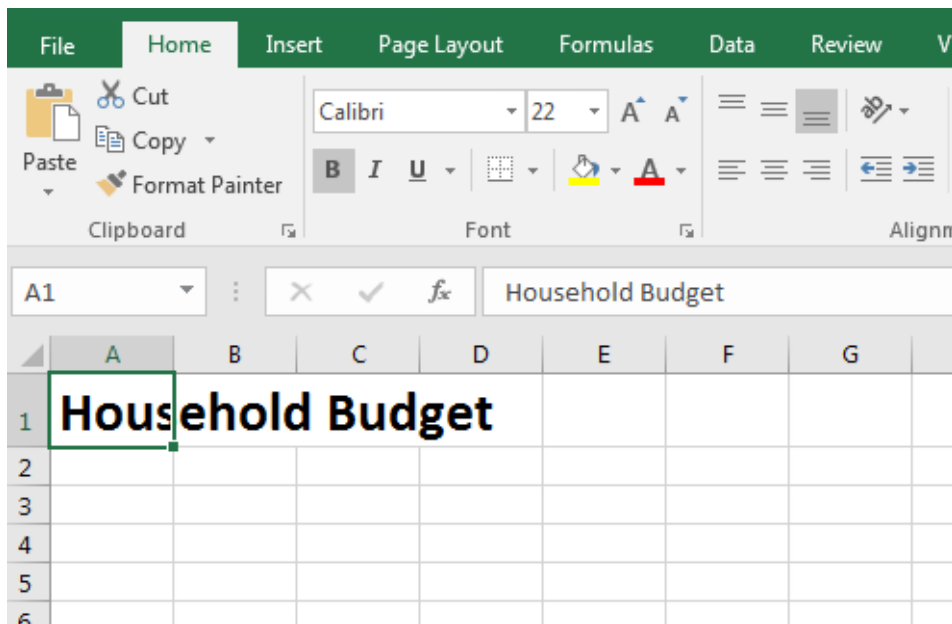
In this module, we will look at how to make your worksheet more appealing by changing the font type and size, alignment, formatting numbers, and by adding colour and borders. This module also explains how to use the merge feature and how to remove formatting.

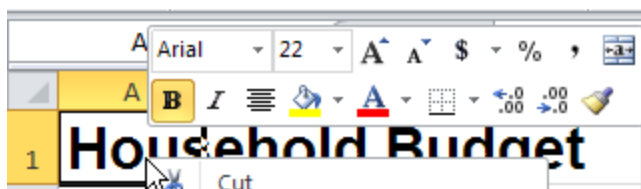
Changing the Appearance of Text

There are a number of things you can do to enhance the appearance of your text. You can change the font, the size, the colour, and you can add bold, italic, or underline effects. The Home tab includes many formatting options. There is also a context menu to easily apply formatting anytime.

Use the following procedure to apply formatting to text.

1. Click on the cell or highlight a number of cells that you want to format.
2. Right-click to display the context menu, or use the formatting tools on the Home tab.
 - a. Use the Font drop down list to select a new font for the text.
 - b. Use the Font Size drop down list to select a new font size for the text.
Alternatively, you can use the Increase Font Size or Decrease Font Size tools to adjust the font size 2 point sizes at a time.
 - c. Select Bold, Italics, or Underline to add these features to your text.



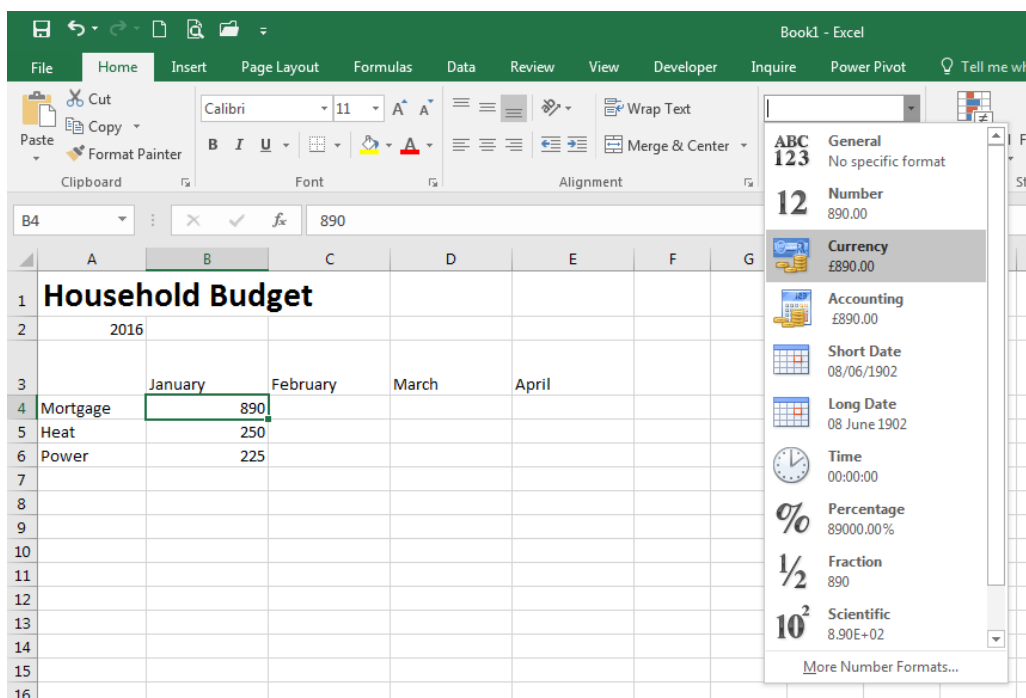


Changing the Appearance of Numbers

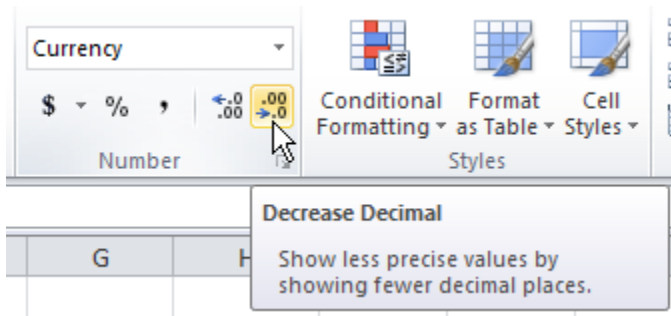
You can format numbers in a variety of ways, by including symbols and/or decimal places, by formatting the numbers as a long or short date, by adding percentage signs, and other number formatting options.

Use the following procedure to format a number as currency without decimals.

1. Click on the cell or highlight the cell range that you want to format.
2. Select the type of number formatting you want to use from the Number group drop down list in the Home tab of the Ribbon.



3. Select the Decrease Decimal tool (2 times) to remove the decimal places.

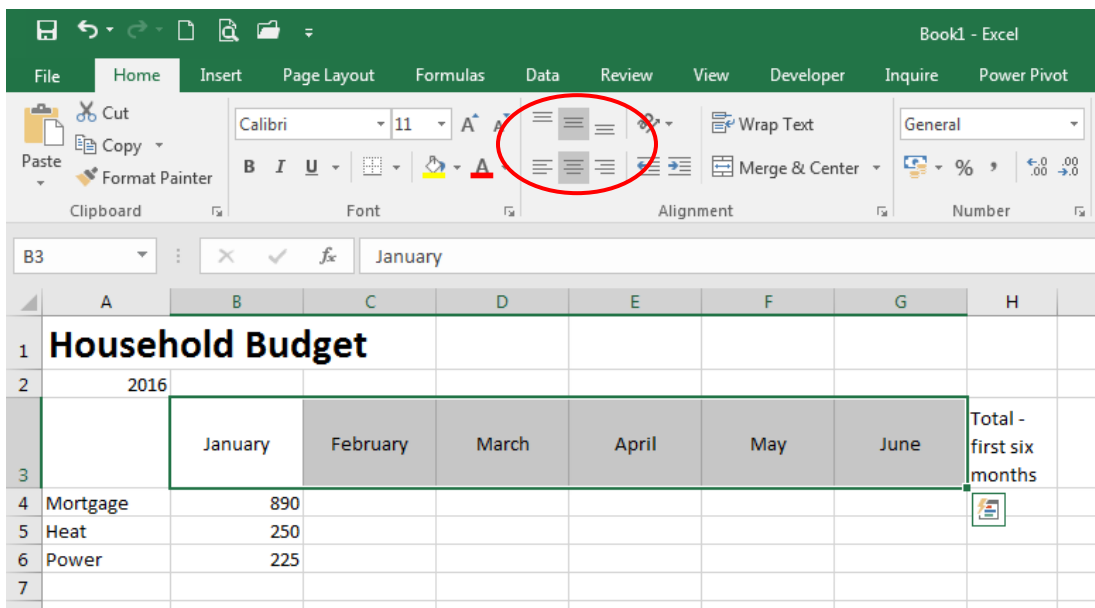


Setting Alignment Options

Alignment refers to the position of the contents within the cell. You can align the contents horizontally and vertically. You can also change the orientation of the cell contents.

Use the following procedure to align cell contents.

1. Click on the cell or highlight the cell range that you want to align.
2. Select the type of alignment you want to use from the Alignment group tools in the Home tab of the Ribbon.

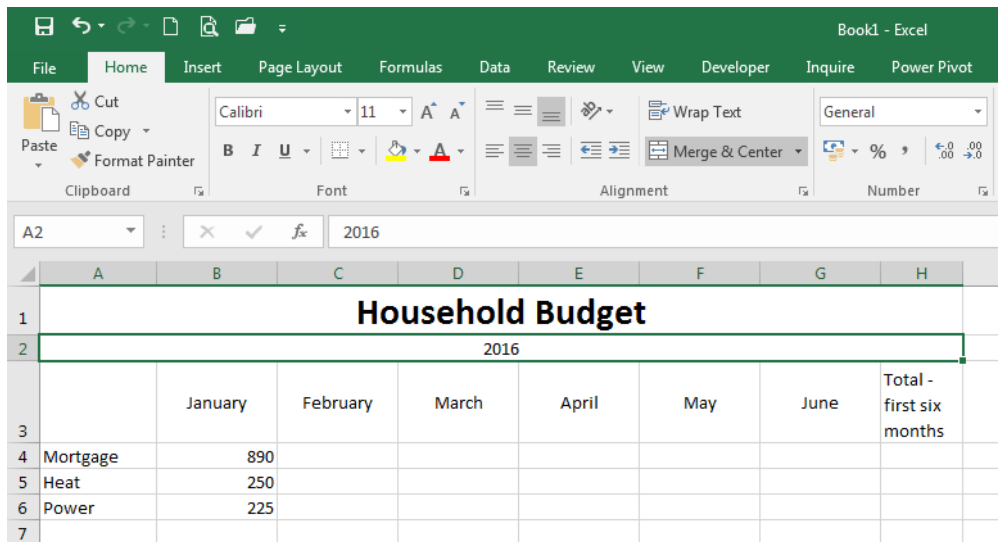
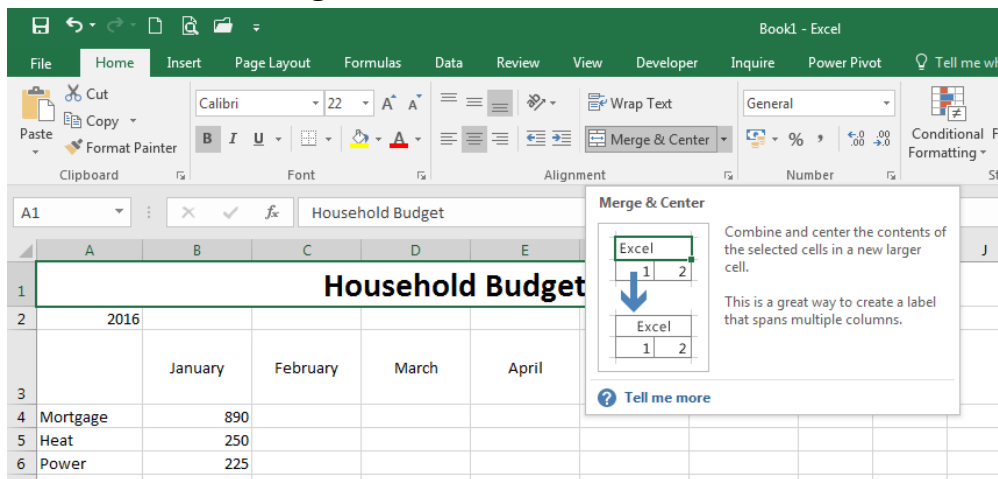


Using Merge

Merge allows you to combine two or more cells into a single cell. This is useful for centring text across several columns.

Use the following procedure to merge cells.

1. Highlight the cell range that you want to merge.
2. Select the **Merge** tool from the Home tab of the Ribbon. Select **Merge & Center**.

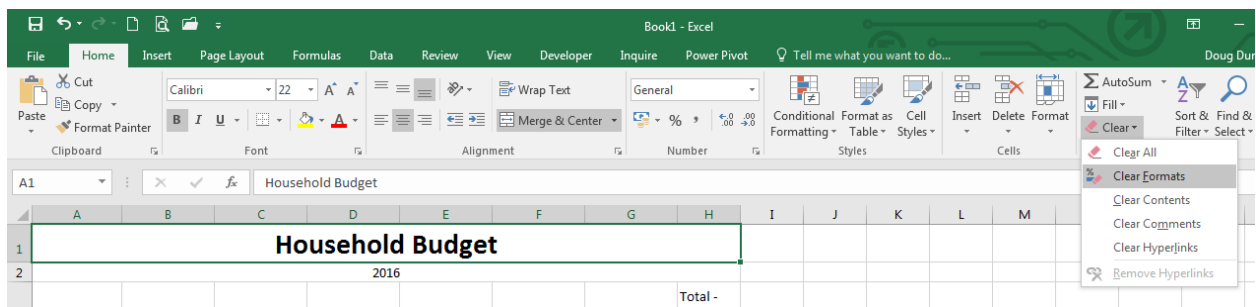


Removing Formatting

Formatting is not removed when you delete the contents of a cell. To see this, select a cell with formatting, and press Delete on your keyboard. Re-type the contents, and you'll see that the new contents are formatted. You must clear the formatting if you no longer need it.

Use the following procedure to clear formatting.

1. Click on the cell or highlight the cell range that you want to clear.
2. Select the **Clear** tool from the Home tab on the Ribbon.



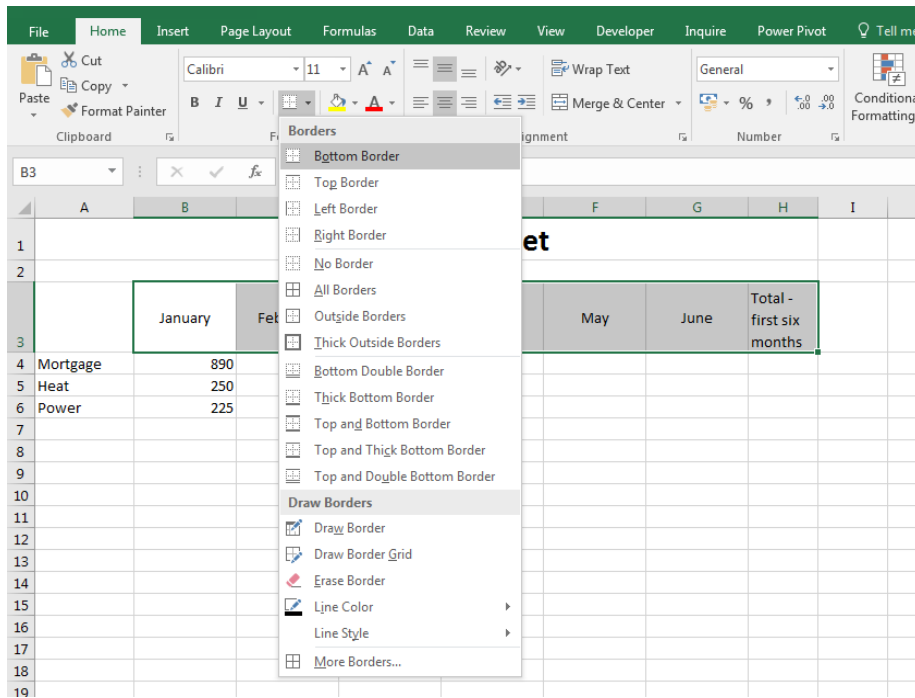
3. Select **Clear Formats**.

Adding Borders

By default, there are no borders around any of the cells. However, you can add a variety of different borders using the Border button.

Use the following procedure to add borders.

1. Highlight the cell or cell range where you want to apply your border.
2. Select the type of border you want to apply from the Borders tool on the Home tab of the Ribbon.

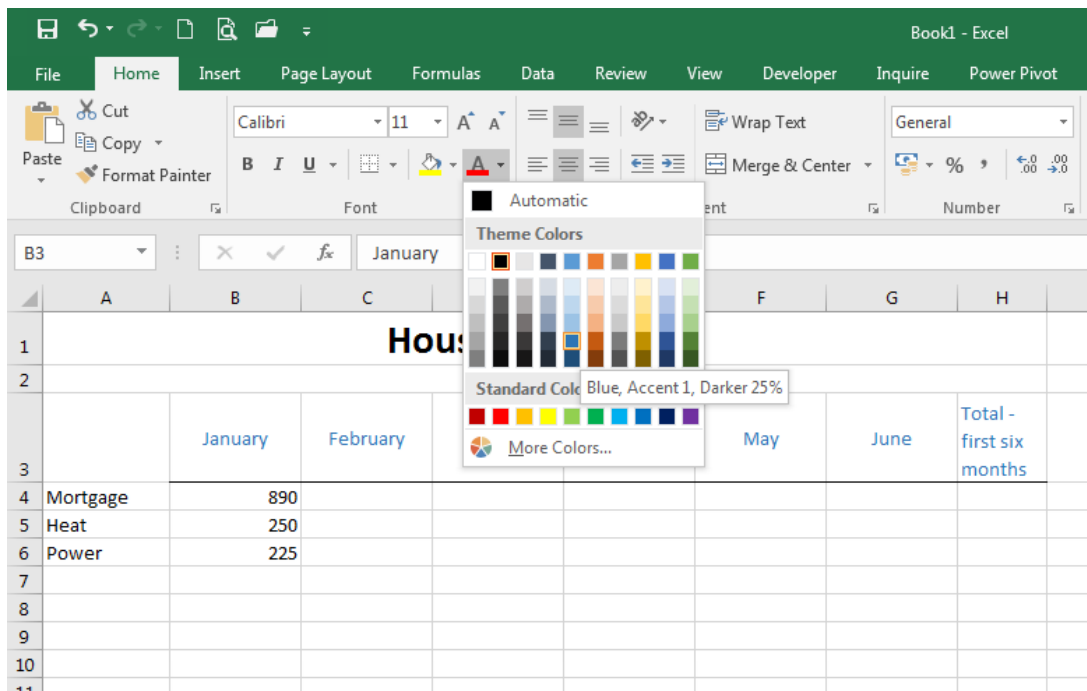


Adding Fill Colour

Fill colour is how you add shading to the cells of your workbook. You can choose from standard colours, theme colours, or you can create a customized colour.

Use the following procedure to apply fill colours.

1. Highlight the cell or cell range where you want to apply your fill colour.
2. Select the colour you want to apply from the **Fill Colour** tool on the Home tab of the Ribbon.

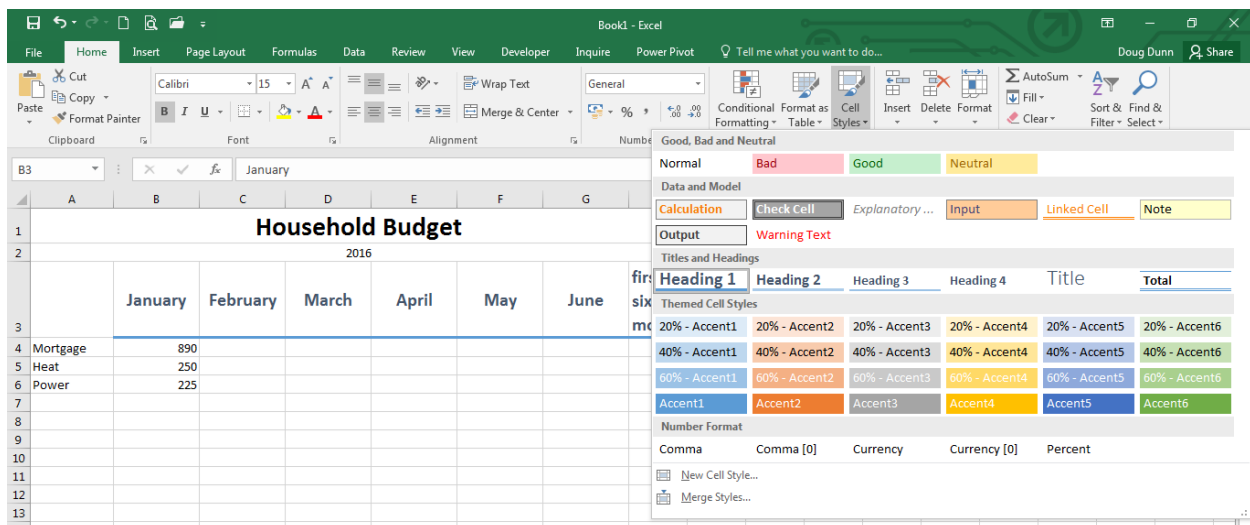


Using Cell Styles

Styles are a group of formatting features that you can apply all at once. Styles provide more consistency to your workbooks and may be easier to apply to individual formatting features that you are going to use repeatedly.

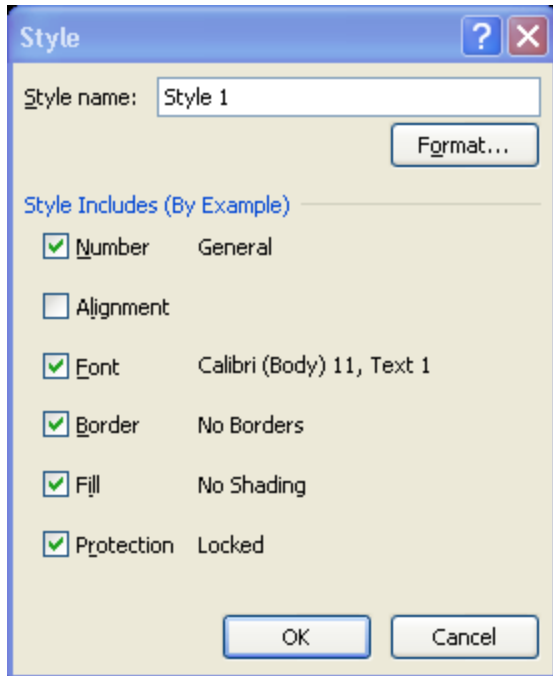
Use the following procedure to apply a cell style.

1. Highlight the cell or cell range where you want to apply your style.
2. Select the Cell Styles tool from the Home tab of the Ribbon to see the style gallery.
3. Select the style that you want to apply. You can see a preview before you select a style.

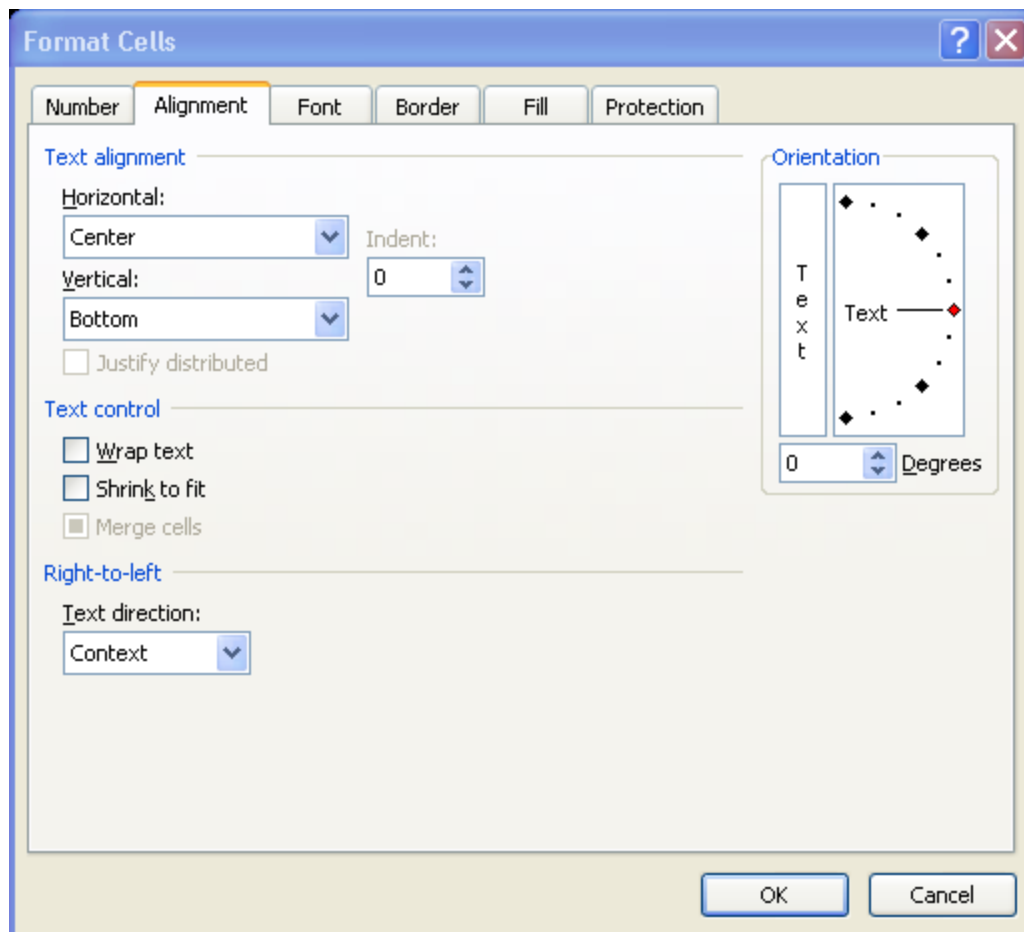


Use the following procedure to create a new cell style.

1. Highlight the cell or cell range where you want to apply your style.
2. Select the Cell Styles tool from the Home tab of the Ribbon to see the style gallery.
3. Select **New Cell Style** to open the Style dialog box.



4. Enter a name for the style in the **Style Name** field.
5. Check the **Style Includes** boxes to indicate what formatting features the style should include. The options vary based on the active cell.
6. Select **Format** to open the **Format Cells** dialog box.
7. Use the Format Cells dialog box to indicate each formatting feature for the style. Select **OK** when you have finished indicating all of the formatting features for the style.
 - a. The Number tab allows you to set number formatting for cells that contain values.
 - b. The Alignment tab allows you to set text alignment for cells that contain text.
 - c. The Font tab allows you to set the font for the style.
 - d. The Border tab allows you to set customized borders for the style.
 - e. The Fill tab allows you to set customized fill colour for the style.
 - f. The Protection tab allows you to protect the cells from changes if you use the Protection feature.



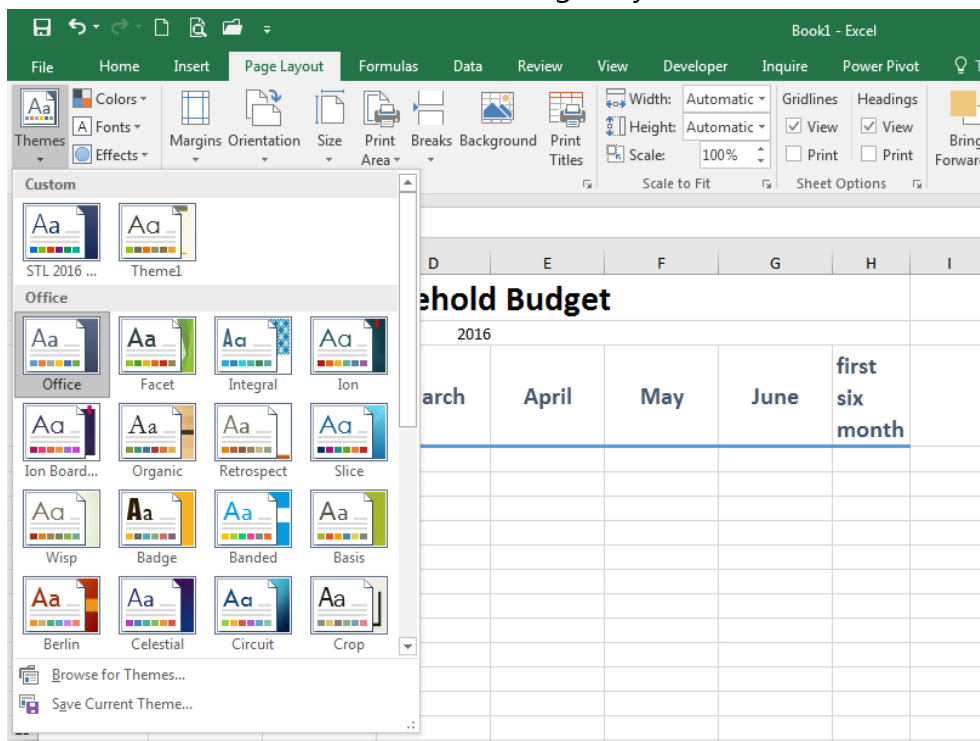
8. Select **OK** to save your style and close the Style dialog box.
The new style appears at the top of the Cell Style gallery.

Changing the Theme

A theme is a collection of formats that can be applied to a worksheet. It includes settings for colours, fonts, and effects (such as shadows and colours for graphics). If you change the theme for a worksheet after you have formatted cells, the theme may not override all of your customizations.

Use the following procedure to apply a theme.

1. Select the Page Layout tab.
2. Select the **Themes** tool to see the Theme gallery.
3. Select a theme from the Theme gallery.



Module Six: Using Time Saving Tools

This module introduces some time saving tools to make basic worksheet creation even easier. The AutoFill feature can help you quickly repeat formulas or do things like fill in the days of the week or months of the year. The AutoComplete feature can help you to quickly write functions. This module will also look at sorting and filtering your data to efficiently find the data you need. Finally, this module will introduce Sparklines – a new feature in Excel 2010 that allows you to create cell-sized graphs that can be helpful in showing trends.

Using AutoFill

AutoFill is a feature that quickly creates copies of a cell based on that cell's contents. If the cell contains a formula, the formula is repeated with relative references. If the cell contains a date, AutoFill creates a list with that date as the starting point.

To use AutoFill, simply select the AutoFill handle and drag to fill the contents of consecutive rows or columns. The AutoFill handle is present for the active cell. It is a small square at the bottom right corner of the cell.

You can only fill in one direction at a time.

Use the following procedure to copy a formula using the AutoFill handle. This example uses the formula in the "# Left to reorder" column in the Inventory sample worksheet.

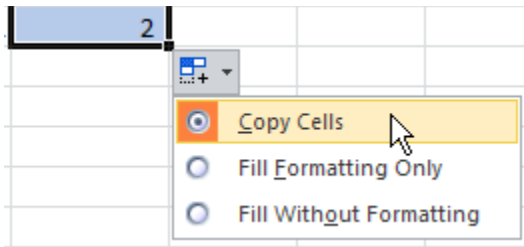
1. Click on the cell with the formula you want to copy. Excel displays a handle around the cell.



2. Drag the handle at the bottom right corner of the cell to the end of the range of cells where you want to copy the formula.

F4		fx		=B4-E4		
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$6,471.14	20	6
5	DSP4543	14	\$ 124.50	\$1,743.00	10	
6	DS45848	2	\$ 588.00	\$1,176.00	1	
7	SS12566	18	\$ 224.67	\$4,044.06	10	
8	SSP2777	12	\$ 118.00	\$1,416.00	5	
9	QS12585	5	\$ 555.22	\$2,776.10	5	
10	DS12566	2	\$ 470.99	\$ 941.98	1	
11	DS12556	8	\$430.37	\$3,442.96	5	
12	KSP4333	4	\$ 585.00	\$2,340.00	2	
13	QP133	12	\$ 255.23	\$3,062.76	10	
14	KS36678	3	\$685.75	\$2,057.25	1	
15						

- Release the mouse button at the end of the range. Excel displays a menu to help determine your AutoFill options. For this example, we want to **Copy Cells**.

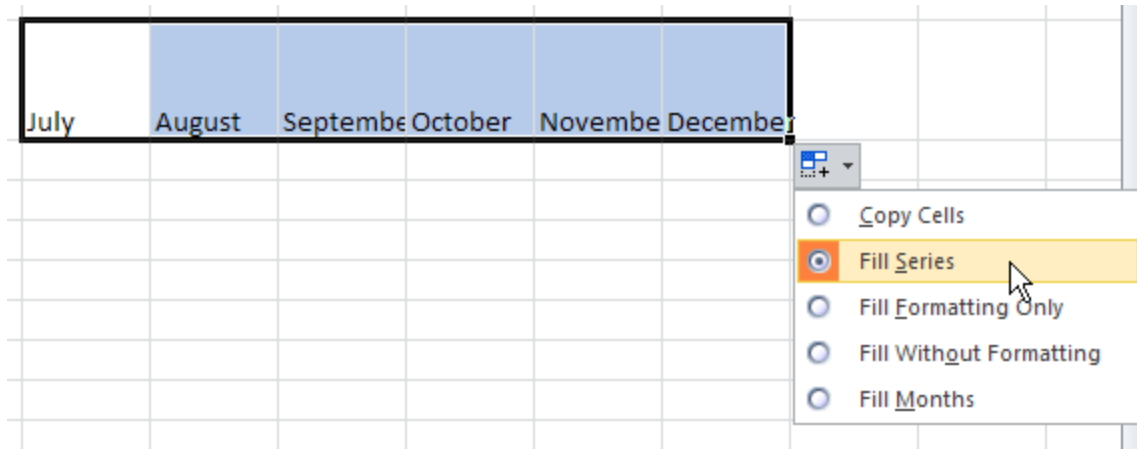


Use the following procedure to create a list using AutoFill. This example creates new columns in the Budget worksheet to cover the second six months.

- Create a new column heading with the text "July" in cell J4.
- Click on that cell to make it active. Excel displays a handle around the cell.
- Drag the handle across the columns. Excel displays a screen tip showing what AutoFill will place in those cells.

J4		July											
	D	E	F	G	H	I	J	K	L	M	N	O	P
1													
2													
3													
4	March	April	May	June	Total - first six months								
						July							
5	890	890	890	890	5340								
6	175	125	80	0	880							December	
7	175	175	150	150	1100								
8					0								
9	65	65	75	75	420								
10	275	275	275	275	1650								
11	360	240	240	240	1560								
12	180	180	180	180	1080								
13	600	600	600	600	3600								

- Release the mouse button at the end of the range. Excel displays a menu to help determine your AutoFill options. For this example, you can choose either **Fill Series** or **Fill Months**.

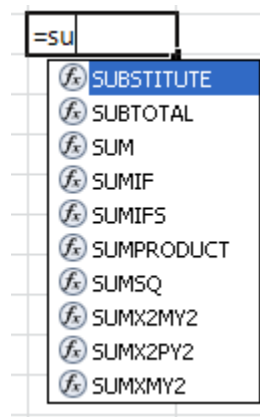


Using AutoComplete

AutoComplete is an Excel feature that helps you save time. You can begin typing the name of a function that you want to use in a cell. Excel displays a list of functions that start with those letters. Then you can simply select the appropriate function from the drop down list. This helps save time for the functions you use frequently. It also helps ensure accuracy for your arguments in the function.

Use the following procedure to use the AutoComplete feature.

1. Begin typing the SUM function. As soon as you type the Equals sign and the letter S, Excel displays a possible list of matching functions.



2. To select the SUM Function from the list, double-click on the SUM function.
3. Excel enters the function, but you must still enter the arguments. You can simply click on multiple cells, or click and drag to select a cell range. You can also type in the cell references.

BETADIST =SUM(D4:D14)						
	A	B	C	D	E	F
1	Inventory					
2						
3	Part No.	# In Stock	Unit Price	Total Value	Reorder level	# left to reorder
4	QS12578	26	\$ 248.89	\$6,471.14	20	
5	DSP4543	14	\$ 124.50	\$1,743.00	10	
6	DS45848	2	\$ 588.00	\$1,176.00	1	
7	SS12566	18	\$ 224.67	\$4,044.06	10	
8	SSP2777	12	\$ 118.00	\$1,416.00	5	
9	QS12585	5	\$ 555.22	\$2,776.10	5	
10	DS12566	2	\$ 470.99	\$ 941.98	1	
11	DS12556	8	\$430.37	\$3,442.96	5	
12	KSP4333	4	\$ 585.00	\$2,340.00	2	
13	QP133	12	\$ 255.23	\$3,062.76	10	
14	KS36678	3	\$685.75	\$2,057.25	1	
15						
16	Tax rate	10%		=SUM(D4:D14		
17				SUM(number1, [number2], ...)		

4. Enter the final parenthesis mark to end the function.
5. Press ENTER to enter the function in the cell.

Adding Sparklines

Sparklines are tiny charts that are actually in the background of a cell. Sparklines can be used to visually display trends that might be harder to spot just from the data alone. Sparklines provide valuable information at just a glance.

Use the following procedure to create a Sparkline. This example shows a Sparkline for the "heat" category on the budget.

1. Click on the cell where you want to create the Sparkline.
2. Click the Insert tab.
3. Click the type of Sparkline you want to include from the Sparklines group. For this example, line or bar chart work best.

	January	February	March	April	May	June	first six months	July	August	September	October
Mortgage	890	890	890	890	890	890					
Heat	250	250	175	175	80	0					
Power	225	225	175	175	150	150					

4. In the next dialog select the data range for the Sparkline and location and press OK.

File

Home

Insert

Page Layout

Formulas

Data

Review

View

Developer

Inquire

Power Pivot

Clipboard

Paste

Cut

Copy

Format Painter

Font

Calibri

11

Alignment

Merge & Center

Number

General

%

,

0.00

0.00

H9

	A	B	C	D	E	F	G	H	
1	Household Budget								
2	2016								
3		January	February	March	April	May	June	first six month	
4	Mortgage	890	890	890	890	890	890		
5	Heat	250	250	175	175	80	0		
6	Power	225	225	175	175	150	150		
7									

5. Finally Autofill up to the other cells H5 and H4.

Module Seven: Working with Excel Files

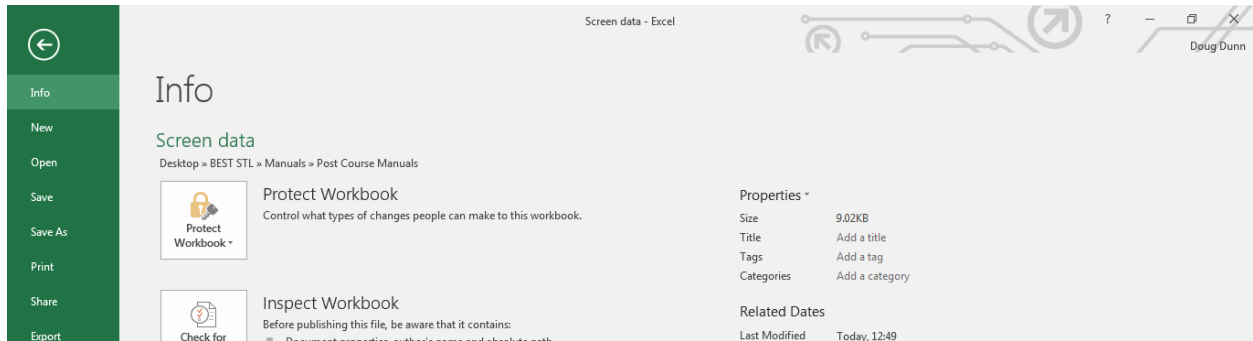
This module working with Excel files, including how to open files and how to save them. It is important to save files early and often to protect your work. The file format introduced in Excel 2007 provides new options. In this module, we'll cover how to publish your worksheets as PDF files and how to send a workbook via E-mail. This module also discusses how to close Excel files.

Saving Files

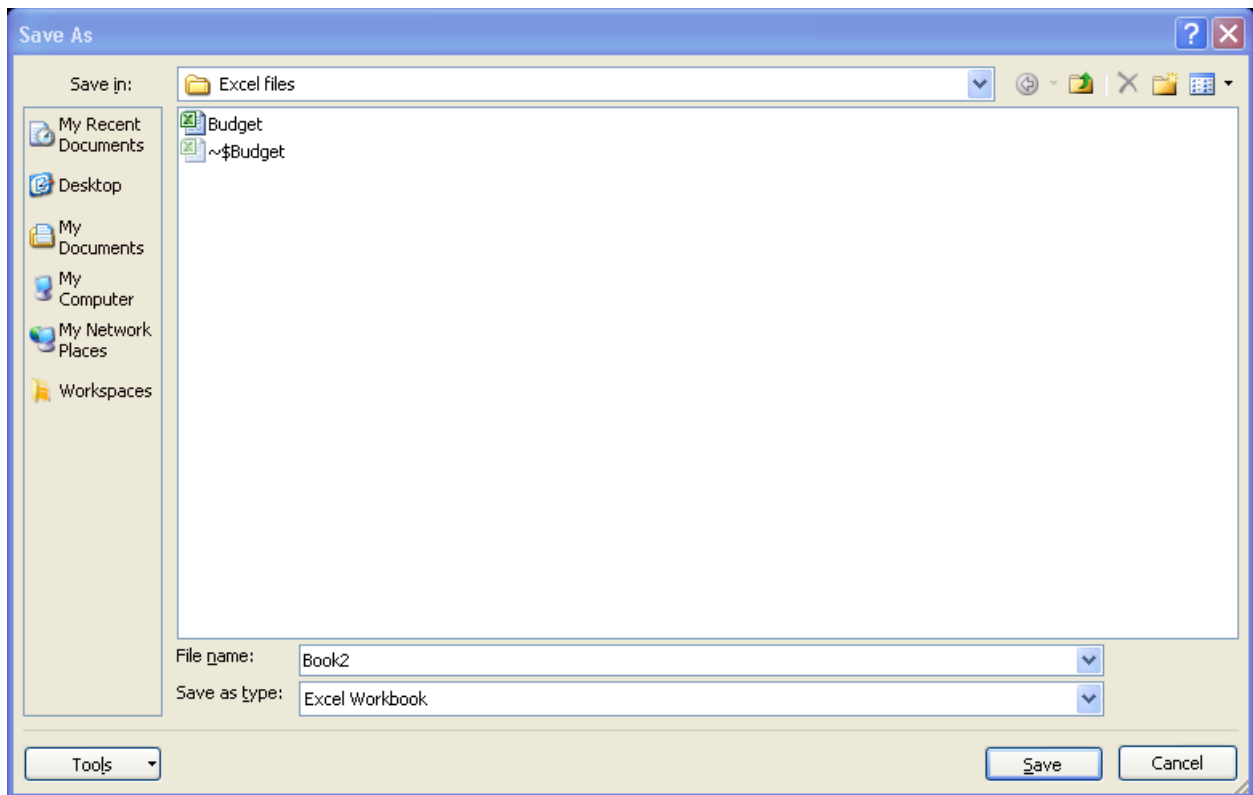
The new Backstage View provides options for saving your files. You can also save a previously saved file using the keyboard shortcut or the Quick Access Toolbar.

Use the following procedure to save a new file.

1. Select the **File** tab to open the Backstage view.



2. Select **Save** or **Save As**. (For unsaved data, either works the same.)



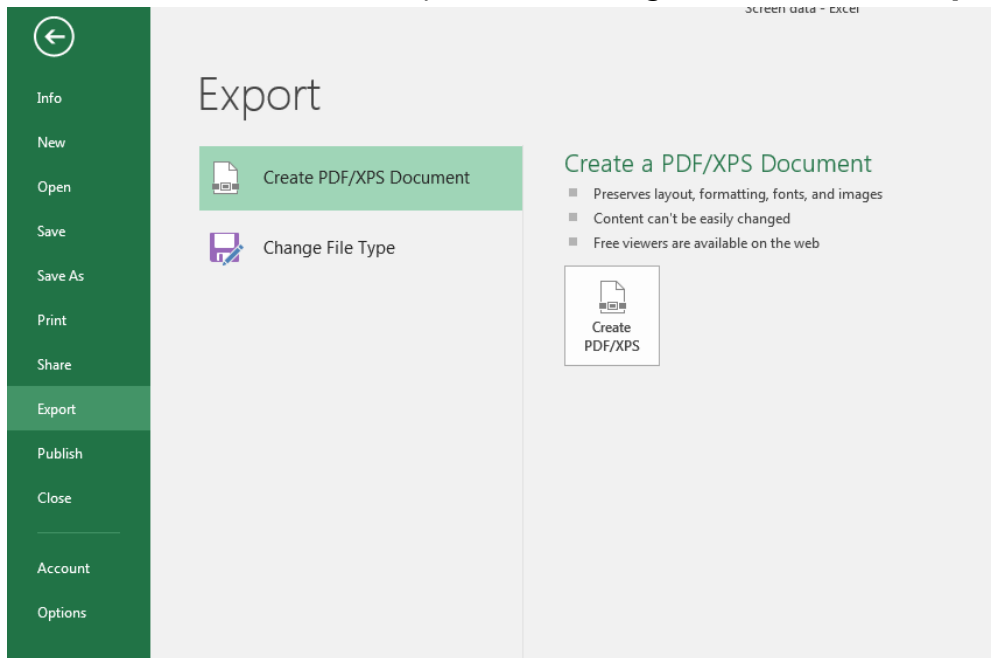
3. Navigate to the location where you want to store the file.
4. Enter the **File Name**.
5. Select **Save**.

Publishing Files to PDF

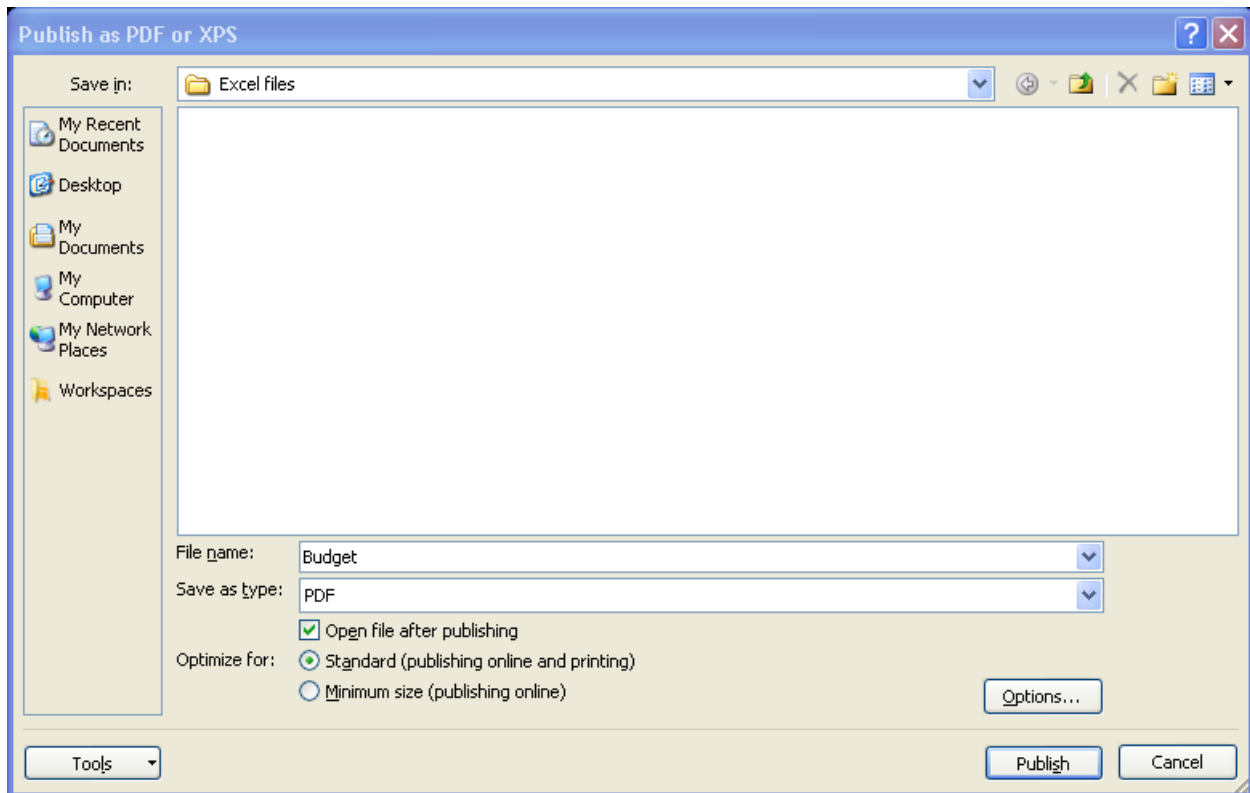
PDF stands for Portable Document Format. Almost all computers have software to read a PDF file, making it an extremely portable file format. After loading the PDF add-in, it's just as easy to save a PDF as a regular workbook file.

Use the following procedure to publish a workbook to a PDF file.

1. Select the **File** tab to open the Backstage view. Select the **Export** tab.



2. Select **Create PDF/XPS** Document under **File Types**. Select **Create PDF/XPS Document**.

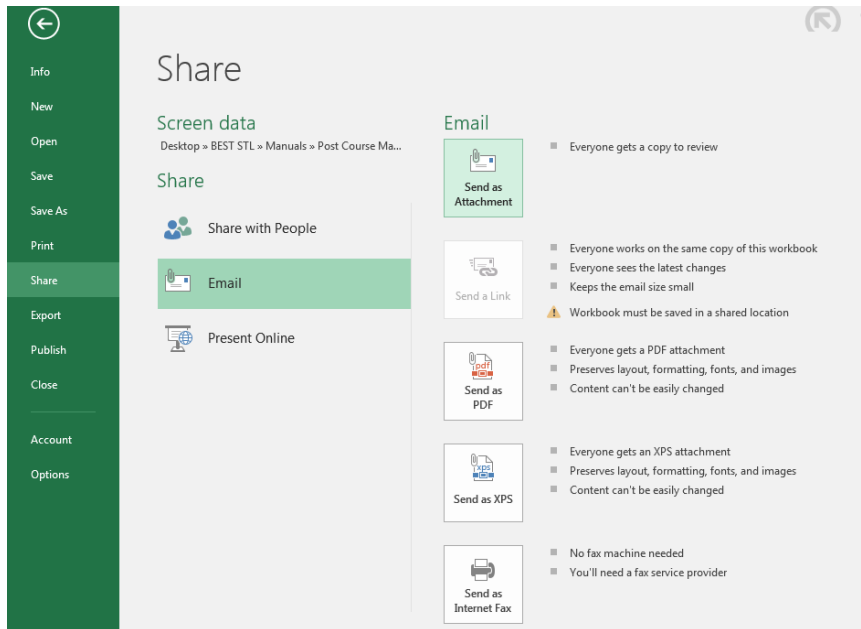


3. Navigate to the location where you want to store the file.
4. Enter the **File Name**.
5. The default **type** is PDF. The **Open file after publishing** and **Standard** optimization are selected by default. These can be changed, if necessary.
6. Select **Publish**.

Sending Files via E-Mail

Use the following procedure to attach their files to an E-mail.

1. Select the **File** tab to open the Backstage view. Select the **Share** tab.



2. Select Send as **Attachment**.

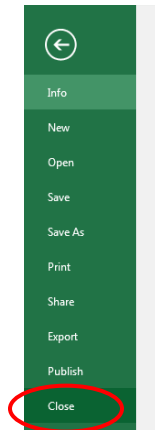
Excel opens an E-mail message with the file attached. You can enter the addressee and message contents as needed.

Closing Files

If you have finished working on a workbook, but are continuing to work in Excel, you should close the file.

Use the following procedure to close a file.

1. Select the **File** tab to open the Backstage view.



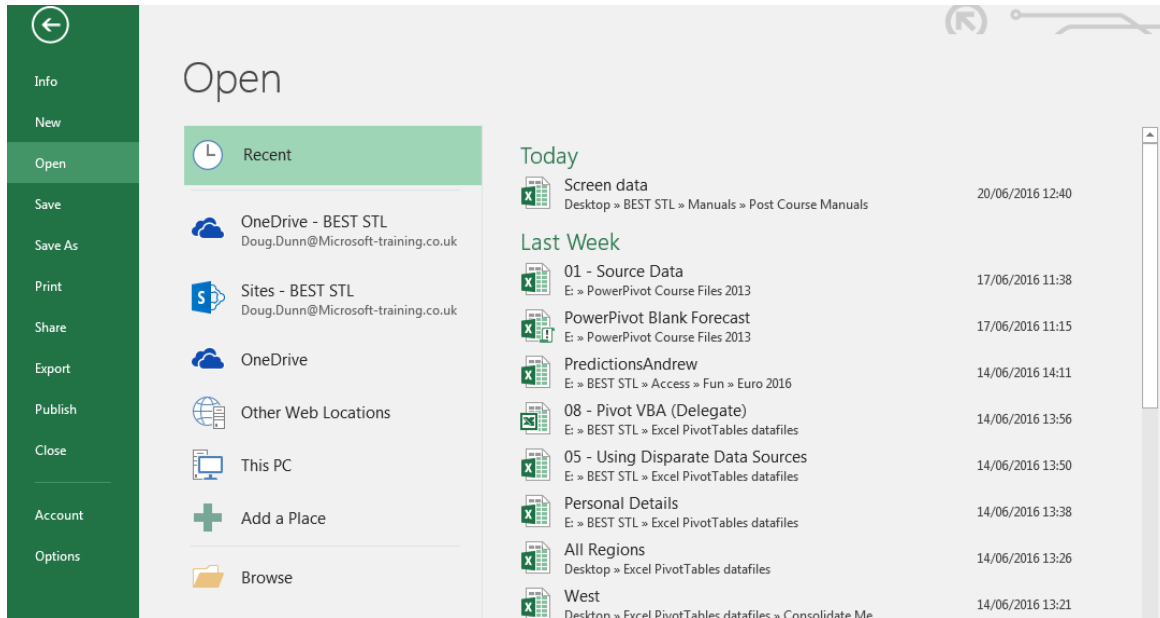
2. Select **Close**.

Opening Files

The Backstage View includes the Open command, as well as a list of recently used files.

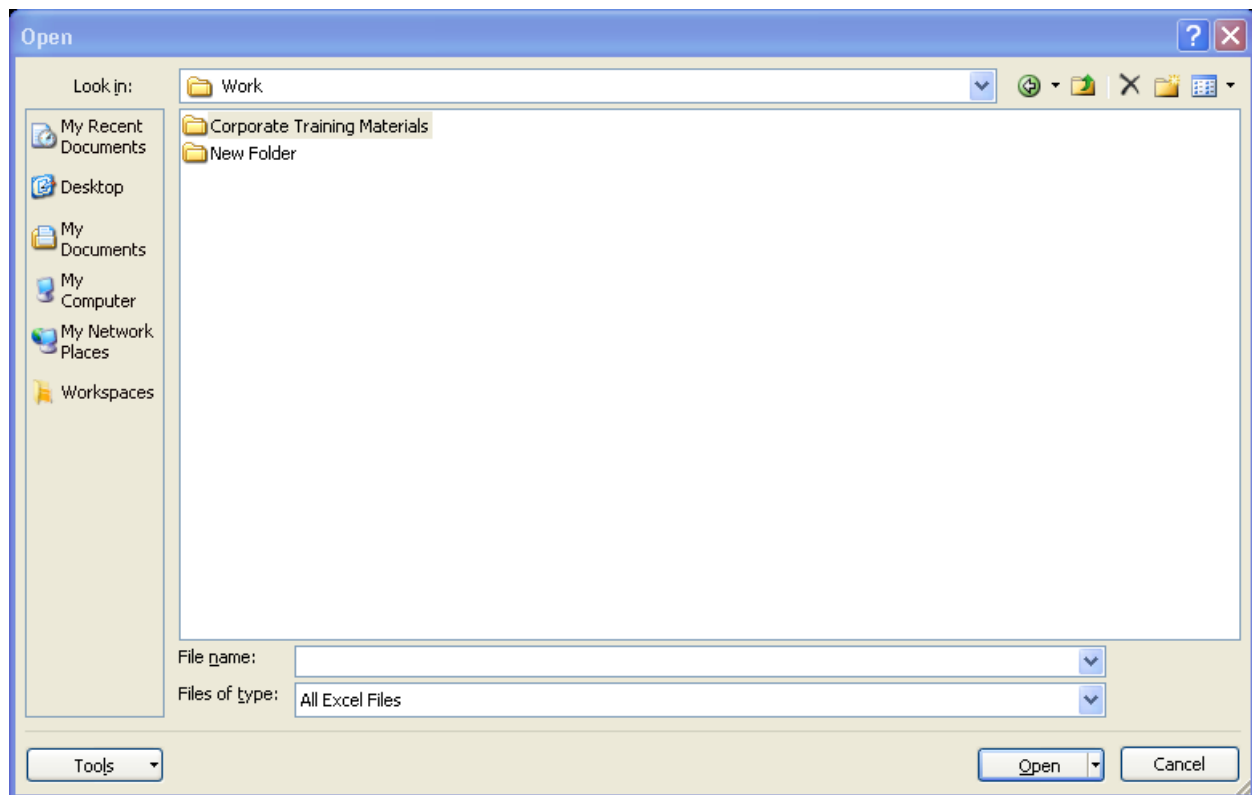
You can use either method, or the Ctrl + O keyboard shortcut to open a file.

Shown here is the Recent list in the Backstage View.



Use the following procedure to open a file.

1. Select **Open** from the Backstage View.



2. Navigate to the location of the file you want to open. Highlight one or more files to open them.
3. Select **Open**.

Module Eight: Printing Excel Data

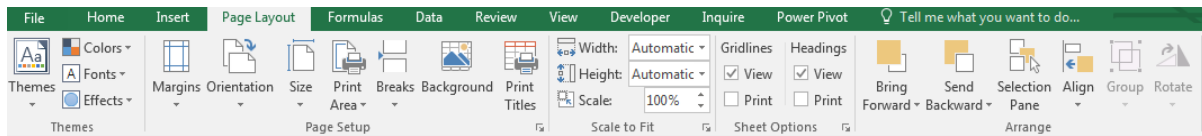
This module discusses printing your worksheets. First, the module covers the Page Layout tab for setting up the worksheet page. Next, the module goes into more detail on setting up your pages. The module discusses how to use Print Preview. Finally, the module explains how to print your worksheets.

An Overview of the Page Layout Tab

The Page Layout tab is used to set up your page. There following groups of buttons are on this ribbon:

- Themes
- Page Setup
- Scale to Fit
- Sheet Options
- Arrange

Shown here is the **Page Layout** tab on the Ribbon.

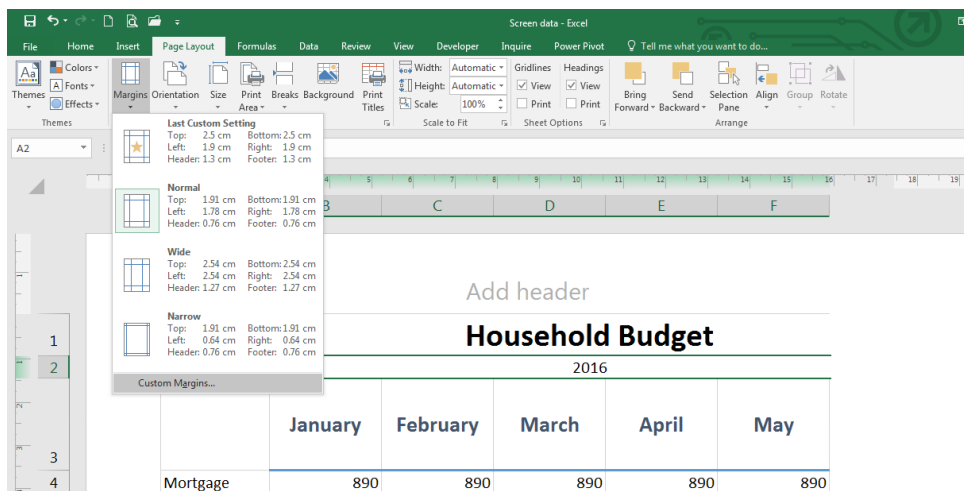


Setting Up Your Page

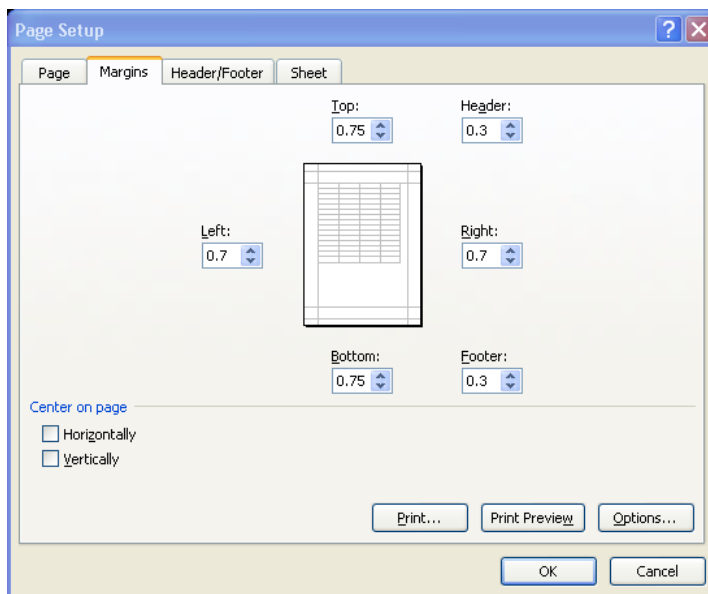
The Page Setup group on the Page Layout tab of the Ribbon includes several tools to help you set up your page. You can control the margins, orientation, and size of your page. You can also control the print area, if you don't want to print all of the contents of your worksheet. Finally, there is another opportunity to control page breaks. You can also include a background and printing titles.

Use the following procedure to use custom margins.

1. Select **Custom Margins** from the **Margins** tool on the **Page Layout** tab of the Ribbon.



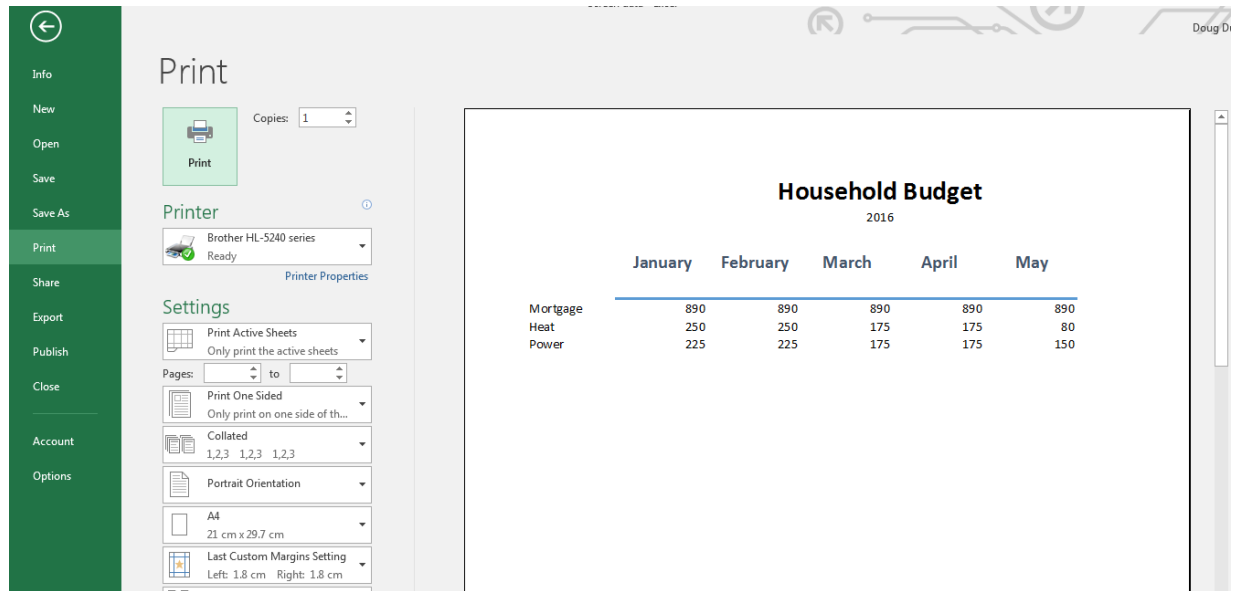
Excel displays the Page Setup dialog box.



2. Use the up and/or down arrows to control each of the margins (in inches). When have finished, select **OK**.

Using Print Preview

Shown here is the **Print** tab in the Backstage View.



Printing Data

You can print a worksheet, an entire workbook, or any part of a worksheet. You can either print the active sheet (Quick Print) or control exactly what you print using the Print dialog.

Module Nine: Creating Charts

Charts provide a visual way of relating information. This module will explain how to insert a chart. You'll learn about the chart tools tab and gain an overview of the parts of a chart. You'll learn how to change the chart style, as well as how to resize and move a chart.

Inserting a Chart

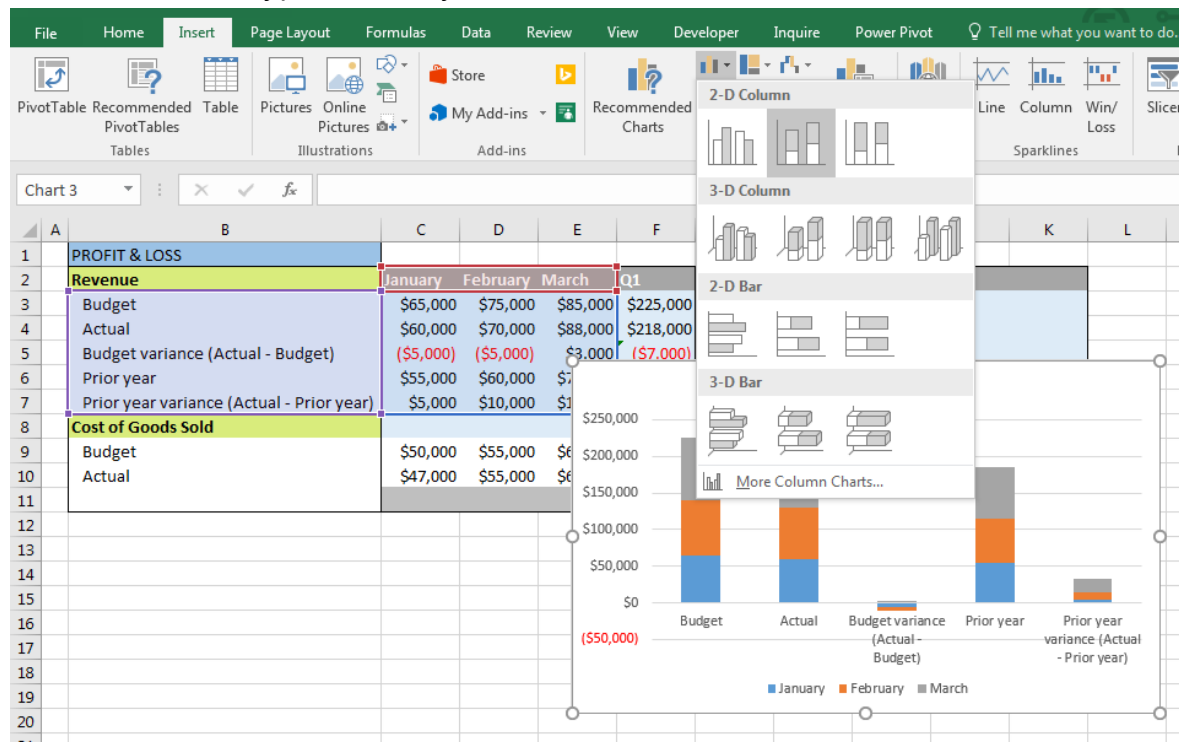
You can create a visual representation of your data by inserting a chart. It's as simple as selecting the data you want to represent and then selecting the type of chart you want to use.

Use the following procedure to insert a chart.

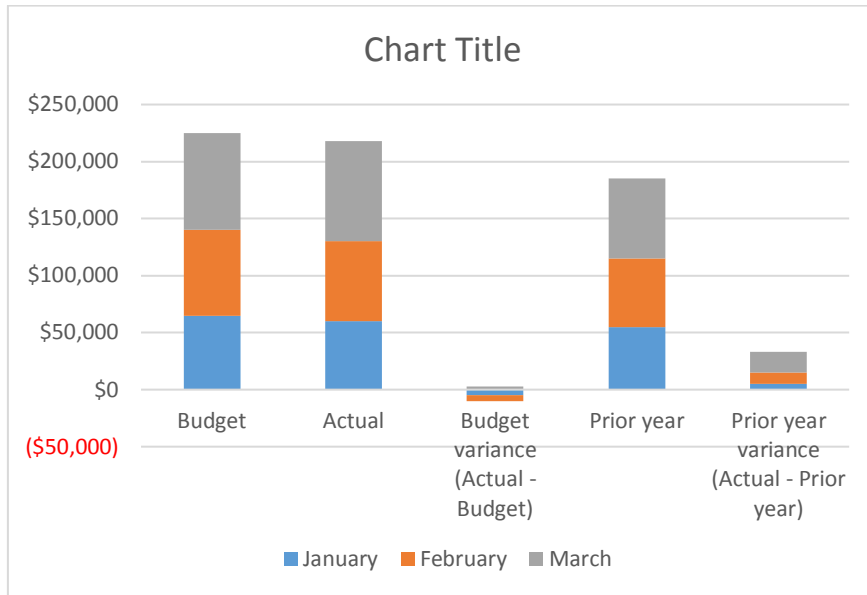
1. Select the cells, including the labels to include in the chart.

PROFIT & LOSS				
Revenue				
	January	February	March	Q1
Budget	\$65,000	\$75,000	\$85,000	\$225,000
Actual	\$60,000	\$70,000	\$88,000	\$218,000
Budget variance (Actual - Budget)	(\$5,000)	(\$5,000)	\$3,000	(\$7,000)
Prior year	\$55,000	\$60,000	\$70,000	\$185,000
Prior year variance (Actual - Prior year)	\$5,000	\$10,000	\$18,000	\$33,000
Cost of Goods Sold				
Budget	\$50,000	\$55,000	\$65,000	\$170,000
Actual	\$47,000	\$55,000	\$63,000	\$165,000

2. Select the **Insert** tab from the Ribbon.
3. Select the type of chart you would like to use.



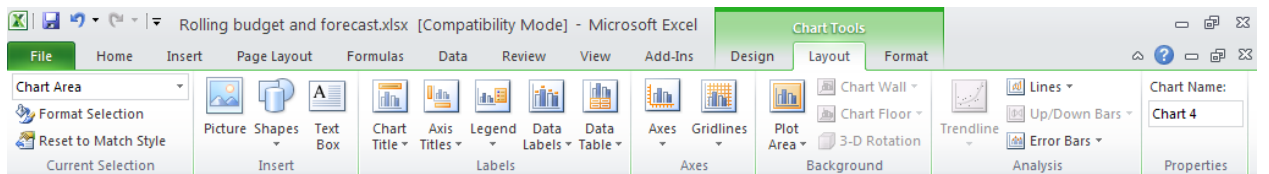
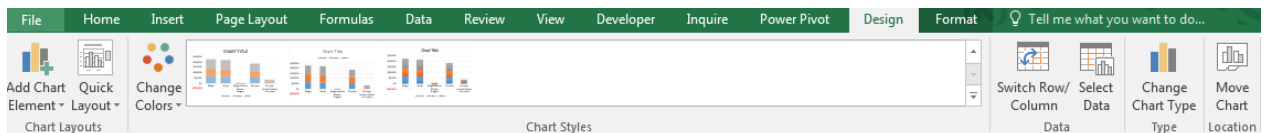
Excel displays the chart.



Overview of the Chart Tools Tab

You may have noticed the Chart Tools tabs that appear when you inserted your chart. These contextual tabs are used throughout Office 2010. The appropriate tab appears, depending on which type of object you are using.

Tools tabs for working with charts



Understanding the Parts of a Chart

the parts of a standard chart.

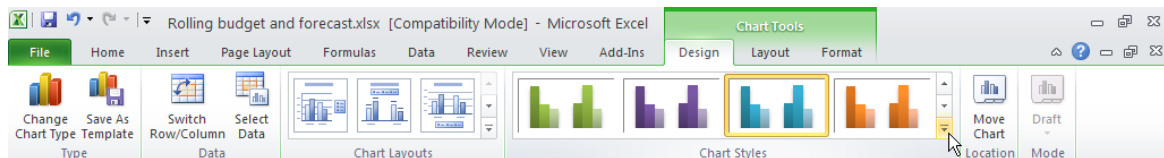
- The **Chart** area includes all other parts of the chart that appear inside the chart window.
- A **data marker** represents a single value in the worksheet. Depending on the type of chart, this may be a bar, a pie slice, or another shape or pattern.
- A group of related values make up the **chart data series**. Charts usually have more than one data series, except pie charts, which only represents one data series.
- An **axis** is a reference line for plotting data. A two-dimensional chart has an X-axis and a y-axis. For many charts, the label is on the X-axis and the values are on the y-axis. Three dimensional charts also have a Z-axis. A pie chart does not have an axis of any type.
- A **tick mark** intersects an axis as a small line. It may have a label and can indicate a category, scale, or chart data series.
- The **Plot area** includes all axes and data point markers.
- **Gridlines** can make it easier to view data values by extending tick marks across the whole plot area.
- You can add **chart text** to include a label or title. The chart text can be attached to the chart or axis, which cannot be moved independently of the chart. Unattached text is a text box simply shown with the chart.
- The **legend** defines the patterns, colours, or symbols used in the data markers.

Changing the Chart Style

The Chart Style gallery includes a number of predefined formats to enhance the look of your chart. You can easily select a new style that changes the colour and style of the chart elements.

Use the following procedure to select a new chart style.

1. Select the chart you want to format.
2. Select the **Chart Tools Design** tab.
3. Select the arrow in the Chart Styles area.



Select the desired chart style.

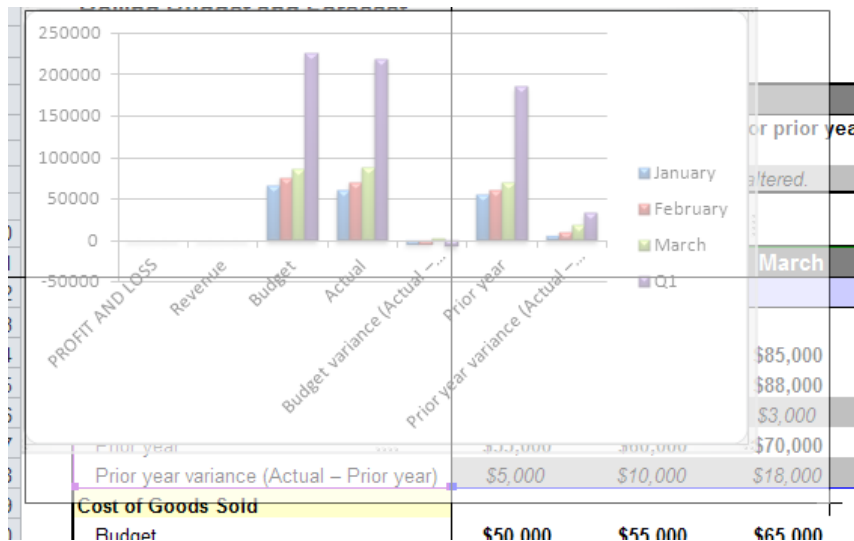


Resizing and Moving the Chart

Picture handles appear around the chart when you select it. These handles help when resizing the chart manually. Make sure these handles are present when you need to move a chart.

Use the following procedure to resize a chart.

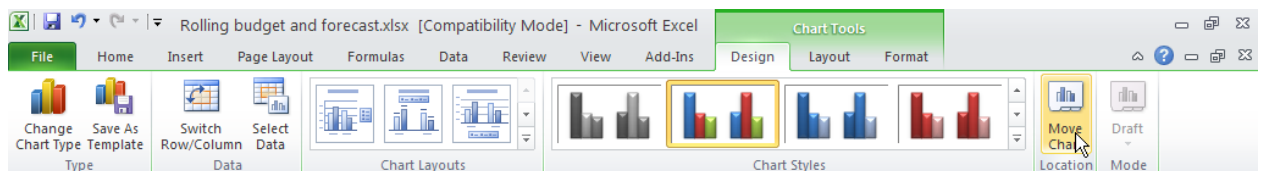
1. Click on the chart to select it. Notice the border around the chart. Each corner has three small dots.
2. Select one of the corners and drag the picture. Notice the cursor changes to a diagonal line with arrows at both ends. You can make it smaller or bigger, depending on which direction you drag.



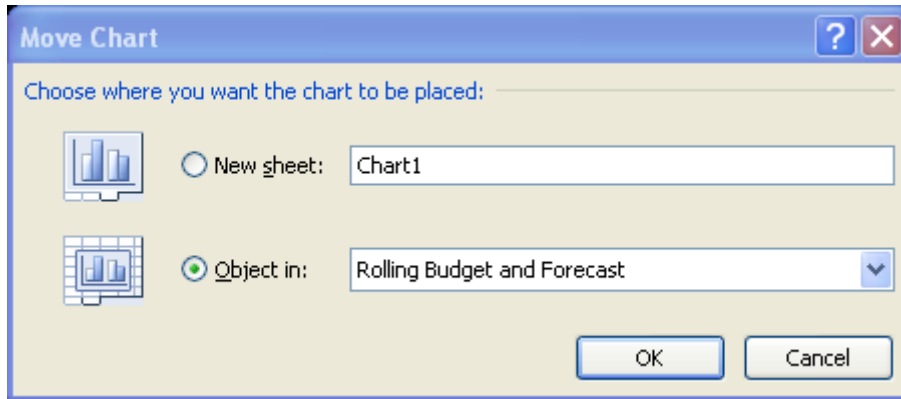
3. Release the mouse when the chart is the desired size. Notice that Excel may rearrange the graphic elements for the best look and fit.

Use the following procedure to move the chart to a new worksheet in the workbook.

1. Select the chart.
2. Select the **Chart Tools Design** tab.
3. Select the **Move Chart** tool.

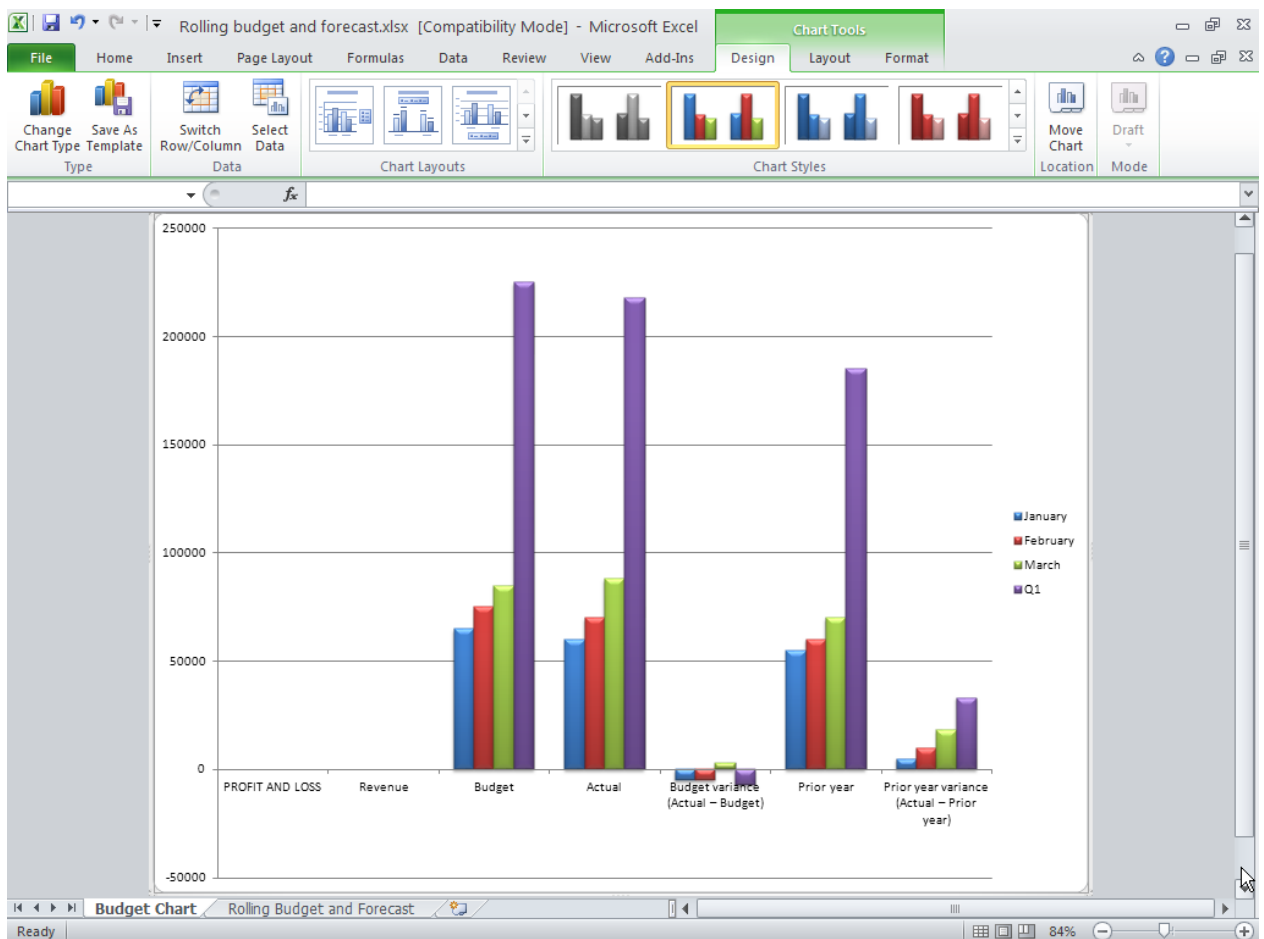


Excel displays the Move Chart dialog box.



4. Select **New Sheet**.
5. Give the new worksheet a new name, if desired.
6. Select **OK**.

Excel creates a new worksheet in the workbook (notice the tabs at the bottom). The chart has also been resized to fill the worksheet.



Wrapping Up

Although this workshop is coming to a close, we hope that your journey to improve your Excel skills is just beginning. Please take a moment to review and update your action plan. This will be a key tool to guide your progress in the days, weeks, months, and years to come. We wish you the best of luck on the rest of your travels!

Words from the Wise

We'd like to leave you with a few thoughts to accompany you on your Excel learning journey.

- Remember to spend some time planning your worksheet. Be clear about why you are creating it.
 - Remember that everything can be changed if needed.
 - Save often, and backup your work regularly.
 - Try to use cell references instead of numbers in your formulas and functions.
 - Try to write a formula or function once, and then copy it or use AutoFill, instead of repeatedly writing it.
 - Practice as much as you can, and as soon as you can.
 - Remember the Undo button!
 - If you find you are getting frustrated, come back to this manual, and try the guided exercises to refresh your skills.
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