

# **Basic Microsoft Excel**





# **Basic Microsoft Excel**

Excel is a spreadsheet application that allows you to organize numerical information. You can think of a spreadsheet program as a very sophisticated ledger. Data is entered electronically, so numerical figures can be updated without time-consuming recalculations or corrections. Editing features enable data to be moved and copied throughout the worksheet. Excel also allows you to manage data stored in a spreadsheet as if it were a database.

To get started, you need to open Excel 2010. Select Start>All Programs>Microsoft Office> Microsoft Office Excel 2010.

1. A new workbook will open.

The File menu contains many commands including Save, Save As, Print, Recent and Close.

The File menu has two columns. Commands appear in the left column. When you click on an item in the left column, additional commands appear in the right column. For example, as shown in Figure 1-1, if you click on Print in the left column, various print options appear for selection in the right column.



Figure 1-1: The File menu.

When you click on the File menu and choose Recent you will see the spreadsheets that have been opened recently. This area provides a quick way to open a spreadsheet. The last 2 options in the file menu enable you to customize some features in Excel, as well as close the Excel program.

#### Learning the Excel Interface

Figure 1-2 points out the main features of the Excel window. The following list describes each of the features:

You can point at any button on any toolbar or ribbon to see its name and a brief explanation of what it does. One good way to explore the interface is to move your mouse pointer around the screen and read the ScreenTips (explanations) that appear.



Figure 1-2: Parts of the Excel 2010 screen.

- Ribbon: This is the multi-tabbed toolbar system that contains buttons and other controls for issuing commands. You can minimize the ribbon by clicking the minimize ribbon arrow on the upper right corner of the screen. To redisplay the ribbon, click the arrow again.
- File menu: Opens the only real "menu" in Excel 2010, which contains commands for saving, opening and printing files.
- Tabs: There are two meanings for this word. A tab is an individual page of the Ribbon; however, it's also the word you click to display that page. For example, you click the word Data to display the Data tab.
- Quick Access Toolbar: This is a highly customizable portion of the interface; you can place shortcuts to your favorite buttons and commands here. By default, it contains Save, Undo and Redo buttons.
- Insert Function button: You can click this button to get help creating functions.

- Formula bar: This is where the contents of a cell appear and where you can type or edit the contents.
- Column headers: Each column's letter is a header for that column. You can click the column letter to select the entire column.
- Microsoft Office Excel Help button: You can click this button to open the Excel Help system, from which you can look up any topic.
- Scroll bars: You can use these to scroll within the active worksheet.
- Zoom controls: These buttons, and this slider, control the magnification at which you view the active worksheet.
- Insert Worksheet tab: You can click this tab to insert another worksheet.
- Worksheet tabs: You can click one of these tabs to switch between worksheets.
- Row headers: Each row's number is a header for that row. You can click the row number to select the entire row.

#### The Ribbon

The Ribbon replaces the menu system from earlier versions of Excel. Instead of drop-down menus, you now have tabbed pages (a.k.a. tabs) of toolbars.

Each Ribbon tab has named sections, called groups. For example, in Figure 1-3, you see the Home tab, which contains groups including Clipboard, Font, Alignment, Number, Styles, Cells and Editing.

Some of the groups have icons in their lower-right corners. These are dialog box launchers. They open dialog boxes containing more options for the settings in that group than the Ribbon provides.



Figure 1-3: The Ribbon takes the place of menus and toolbars.

Groups expand or collapse based on the width of the Excel window. When the Excel window is restored down (smaller than full size), some groups become single buttons that drop down into a palette of buttons when you click them. Figure 1-4 shows the same tab as Figure 1-5, but at a narrower window size and with the Alignment group's button active (selected) so that the hidden buttons open as a drop-down palette.

3

🗶 i 🛃	<b>1)</b> - (1	1 × 1	∓ Bool	k1 - Micr	osoft Ex.	🕒		x
File	Ног	Ins: F	Pag For D	Dat Rev	Vie A	• ~ (	3 - 1	23 <b>G</b>
Paste	∦ ⊫⊒ - ∛	A Font	E Alignment	% Number	Styles	Cells	Σ - { 	27 - ₩ - ,
Clipboar	d 🗔						Editi	ng
	A1			<b>_</b> &		Wrap T	ext	~
1	А	В			ŧ	Merge	& Cente	•
2			L	Ali	gnment			5

*Figure 1-4: When the Ribbon is less than full size, groups are collapsed.* 

	<b>- ") • (</b>	× <u>]</u> - ×	-			-	-	-	Bool	d - Micros	oft Excel	1. c	1.1.1.1							x
File Home Insert Page Layout Formulas Data Review View Acrobat										a 🕜 🗆 🛙	7 F									
Ê	Cut	v -	Calibri	* 1	· · A /	. = =	* 😑 🗞 -	W	rap Text	Gener	al	*	<b>1</b> 55			7	Σ	AutoSum ×	27 🕅	
Past	te 🛷 Forn	nat Painter	BI	<u>u</u> •   <u></u> •	<u>ð</u> r <u>A</u>	* = =		E M	erge & Center	* \$ *	% , 1	.0 .00 00 →.0	Conditional F Formatting * as	ormat Cell Table * Styles	Insert	Delete Fo	rmat 🦉	Clear *	Sort & Find & Filter * Select *	
	Clipboard	i Gi	_	Font		Gr.	Alig	nment		G	Number	- Fai	Sty	les		Cells		Edit	ing	_
	A1		. (	$f_x$																~
	А	В	С	D	E	F	G	н	1	J	K	L	M	N	0	Р	Q	R	S	-
1																				
2																				
3																				

Figure 1-5: When the Ribbon is full size.

Screen tips or keyboard shortcuts display as you position your mouse over certain items in the ribbon. For example, holding the mouse over the B in the home tab gives you a screen tip what that button does – and also tells you that the shortcut key is CTRL+B.

Getting Help you can press the F1 key or click the help icon (?) on the right side of the tabs.

### **Changing Font and Font Size**

- 1. Select the cells.
- 2. From the Home tab choose your font and font size .
- 3. You can also Bold Italics and Underline in the same area (these are the most common formatting options. You can remove this format by clicking on the icon (example: clicking "B" bolds the text; clicking it again, takes the bold off).

#### Templates

To access the templates click on the File menu and then choose New. The templates section contains options for creating spreadsheets from templates that are stored on your computer. The Microsoft Office online section offers a variety of templates that are stored on the Microsoft Office online website.

The blank and recent option, which is currently selected, lists a blank workbook option. This one lets you create a new blank workbook from scratch. If you have recently used a template it will also appear in this section.

#### **Quick Access Toolbar**

The Quick Access Toolbar contains buttons that activate commonly used tools and commands. Instead of locating the tool on the ribbon or office menu, you can just click its button on the quick access toolbar. By default, the Quick Access Toolbar contains just three buttons: save, undo and repeat/redo. You can add more buttons to the toolbar and remove buttons you don't need.

For example, if you often use the auto sum command in your documents, add that command to the Quick Access Toolbar. That way, it's always visible and ready for use. To add new commands to the Quick Access Toolbar follow these steps:

- 1. Locate the command you want to add, such as auto sum.
- 2. Right-click the command.
- 3. Click Add to Quick Access Toolbar.

Take a look at the Quick Access Toolbar. The command you just added should appear.

Clicking on the arrow on the far right side of the toolbar opens a menu of options. This menu lists some commonly used commands which can be added to the toolbar. A check mark next to a command indicates that it is currently on the quick access toolbar. If you don't see the command you want on the menu, you can select the more commands option to access every command offered by the program.

Don't go crazy adding commands to the Quick Access Toolbar -- the point is to keep it simple to access. If you add too many commands, you'll find it difficult to locate the commands you want. Just add commands that you use most often.

The show below the ribbon command moves the Quick Access toolbar to a separate bar below the ribbon. That way the toolbar can display a large number of buttons.

To remove a button you can select the command again from the "customize" Quick access toolbar menu, which removes the check mark or you can use the button's shortcut menu. A short cut menu is a context sensitive menu that is displayed by right clicking an item. The menu that appears depends upon the window element that was clicked.

#### **Understanding Spreadsheet Terminology**

At the intersection of each row and column is a cell, into which you type information. Each cell has a unique name consisting of a column letter and a row number. For example, the top left cell is A1.

A cell can contain any of the following:

- A number (and any associated punctuation, such as decimal points, commas and currency symbols.)
- Text (including any combination of letters, numbers and symbols that aren't number-related.)
- A formula, which is a math equation.

Formulas always begin with an equal sign, and can include math operators (Such as + or -), references to cells and numbers. For example, =B1+B2 is a formula.

• A function is a named equation that shortcuts an otherwise complex operation

For example, the AVERAGE function adds up all the values in a range and then divides it by the number of entries in the range, to calculate their average. You could do that with a regular formula; however, it would be complicated to write. The AVERAGE function makes it much easier.

Each file in Excel is a workbook. A workbook consists of one or more tabbed sheets called worksheets. (Worksheet is Microsoft's term for "spreadsheet."). Each workbook is defaulted to contain three worksheets, although you can add or remove worksheets as needed. There is not a limit per se of worksheets but of course, there is a practical one which depends on the computer resources. An Excel worksheet can consist of many columns and rows (in Excel 2003 and earlier versions 256 columns and/or 65,536 rows - Excel 2007 & 2010 has 1,048,576 rows and 16,384 columns). In Excel 97 and above you can have up to 32K characters in a worksheet cell, but only the first 1000 or so are displayed (the exact number depends on your font and display characteristics. However, you can increase the number of characters displayed if you add line breaks in the cell (press Alt+Enter).

#### **Renaming Worksheets**

By default they are Sheet1, Sheet2, Sheet3. By right clicking on a sheet and left clicking rename you have the opportunity to rename the sheet anything that you want.

#### Selecting a Cell

Before you can enter or edit data in a cell, you need to select it. Here are some ways:

- Click the cell.
- Use the arrow keys on the keyboard to move the cell selector (the thick outline that indicates the active cell) onto the desired cell.
- If the desired cell is to the right of the cell selector's current position, press the Tab key on your keyboard to move it to the right. Or, if the desired cell is to the left, press Shift+Tab to move it to the left.

If you change your mind about entering or editing data in the cell, press Esc before you move the cell selector away from that cell. This returns it to its previous value. If you don't realize the mistake until after moving away from the cell, press Ctrl+Z to undo the last action. Alternatively, click the Undo button on the Quick Access Toolbar.

#### **Entering Data in a Blank Cell**

If a cell is blank, you can just select it and then type. Pressing Enter moves the cell selector to the next cell below; pressing Tab moves the cell selector to the next cell to the right.

### **Editing Existing Data in a Cell**

To edit data, select the cell and then do one of the following:

- Double-click inside the cell to move the insertion point into the cell and then edit the text there.
- Click in the formula bar and edit the text there.
- Type new content. The old content will be replaced.

#### **Setting Page Breaks:**

Insert, move, or delete page breaks in a worksheet:

To print a worksheet with the exact number of pages that you want, you can adjust the page breaks in the worksheet before you print it. Although you can work with page breaks in Normal view, it is recommended that you use Page Break Preview view to adjust page breaks so that you can see how other changes that you make (such as page orientation and formatting changes) affect the automatic page breaks.

To adjust page breaks, you can insert your own page breaks, move existing page breaks, or delete any manually-inserted page breaks. You can also quickly reset all page breaks to automatic page breaks. After you finish working with page breaks, you can return to Normal view.

 Dashed line specifies an automatic page break – by default, page breaks are not shown in Normal view. However, if you want to view page breaks in Normal view, you can display them in this view. In Normal view, you can use the Breaks command (Page Layout tab, Page Setup group) to insert, remove and reset page breaks. You cannot drag page breaks to another location in Normal view.

Insert a page break

- 1. Click the worksheet that you want to print.
- 2. On the View tab, in the Workbook Views group, click Page Break Preview.
- 3. To insert a vertical page break, select the row below where you want to insert the page break or to insert a horizontal page break, select the column to the right of where you want to insert the page break.

7

- 4. On the Page Layout tab, in the Page Setup group, click Breaks.
- 5. Click Insert Page Break.

Move a page break

- To enable dragging of page breaks to another location in a worksheet, make sure that the cell drag-and-drop feature is enabled. If this feature is not enabled, you may not be able to move any page breaks.
- 1. To verify that drag-and-drop is enabled, do the following:
  - a. Click the office button and then click Excel Options.
  - b. In the advanced category, under Editing options, select the Enable fill handle and cell drag-and-drop check box and then click OK.
- 2. Click the worksheet that you want to print.
- 3. On the View tab, in the Workbook Views group, click page Break Preview.
- 4. To move a page break, drag the page break to a new location. (moving an automatic page break changes it to a manual page break.

Delete a page break

- 1. Click the worksheet that you want to print.
- 2. On the View tab, in the Workbook Views group, click Page Break Preview.
- 3. Click the manual page break that you want to delete. (You cannot delete an automatic page break.)
- 4. On the Page Layout tab, in the Page Setup group, click Breaks.
- 5. Click Remove Page Break. (You can also remove a page break by dragging it outside of the page break preview area (to the left past the row headers, or up past the column headers). If you cannot drag page breaks, make sure that the drag-and-drop feature is enabled.

Reset all page breaks (this removes all manual page breaks and resets the worksheet to display only the automatic page breaks.)

- 1. Click the worksheet that you want to print.
- 2. On the View tab, in the Workbook Views group, click Page Break Preview.
- 3. On the Page Layout tab, in the Page Setup group, click Breaks.
- 4. Click Reset All Page Breaks.

### Saving and Closing a Workbook

After making changes to a workbook, you can save those changes to disk. If the workbook has already been saved once -- or opened from an existing file -- you don't need to re-specify a name or location. You can just issue the Save command. If the workbook has never been saved, you're prompted for a file name, type and location.

To save changes to an already-existing file, do any of the following:

- 1. Click the File Menu and then select Save.
- 2. Click the Save button on the Quick Access Toolbar.
- 3. Press Ctrl+S.



To save a file that hasn't previously been saved, or to save an existing file under a different name, type, or location:

- 1. Click the File menu and then select Save As. The Save As dialog box opens.
- 2. Type the desired file name in the File name text box.
- 3. (Optional) Navigate to a different folder location, if desired.
- 4. (Optional) Change the file type in the Save as type drop-down list, if desired.
- 5. Click Save.

The Save As dialog box opens, as shown in Figure 1-8.

Colored Colore	•	<b>▼</b> 49	Search Documents	
Organize 👻 New folder			8= -	0
Favorites	* III	Documents library Includes: 2 locations	Arrange by: Folder -	
Desktop		Name	Date modified	
📃 Recent Places		퉬 microsoft	2/18/2010 5:31 PM	
		🕌 Avaya	3/15/2010 11:29 AM	
Nesktop		퉬 email settings	3/16/2010 1:46 PM	
🥽 Libraries		퉬 network settings	3/16/2010 1:46 PM	
Documents		NETWORK UTILLITY	3/16/2010 1:46 PM	
🎝 Music		My Stationery	3/26/2010 8:51 AM	
🗟 New Library	*	•		۲
File name: Book1				
Save as type: Excel Workbook				
Authors: Tammy Birrenkott		Tags: Add a tag		
Save Thumbna	il			
Hide Folders		Tools 👻	Save Cancel	

Figure 1-8: The Save As Dialog box in Windows 7.

When saving a document you can add a tag name – another property that contains one or more key words describing the file. Tags are helpful when you search for files using Windows Vista or Windows 7.

TIP: If you are sending this document to someone who may not have the 2010 version, you can use the Save as feature instead of using save and choose Save as type as Excel 97-2003.

#### Here Are Some Basic Keystrokes Used For Moving Around in Excel

- Arrows: One cell in the direction of the arrow
- Enter: Beginning of next row (or beginning of data range in next row)
- Tab: One cell to the right
- Shift+Tab: One cell to the left
- Home: Beginning of current row
- Ctrl+Home: Beginning of the worksheet
- Ctrl+End: the last nonblank cell in a worksheet
- Page Down: Down one screen
- Page Up: Up one screen
- Alt+Page Down: Right one screen
- Alt+Page Up: Left one screen



#### **Selecting Ranges**

A range is a group of one or more cells. If you select more than one cell at a time, you can then perform actions on the whole group at once, such as applying formatting or clearing the contents. A range can even be an entire worksheet.

A range is referenced by the upper left and lower right cells. For example, the range of cells B1, B2, C1 and C2 would be referred to as B1:C2.

To select a range

- With the mouse: Drag across the desired cells with the left mouse button held down. Be careful when you're positioning the mouse over the first cell (before pressing the mouse button). Position the pointer over the center of the cell and not over an edge. If you drag while the pointer is over the edge of the cell, Excel interprets the selection as a move operation and whatever is in the cell(s) is dragged to a different spot.
- With the keyboard: Select the first cell and then hold down the Shift key while you press the arrow keys to expand the selection area or you can select the first cell and then while holding the Shift key down click on the last cell you want (everything between those cells will now be selected).
- To select a nonrectangular or noncontiguous range, select the first portion of the range (that is, the first rectangular piece) and then hold down the Ctrl key while you select additional cells/ranges with the mouse.
- To select an entire column, click the column header (where the letter is). To select an entire row, click the row header (where the number is). You can click one row or column and then drag to select additional columns, or hold down Ctrl as you click on the headers for noncontiguous rows and/or columns.
- To select the entire sheet
  - Press Ctrl+A or Click the square containing a gray triangle at the upper intersection of the column letters and the row numbers.

Click in any cell -- or press the Esc key -- to undo the selection.

#### Using Auto Fill and the Fill Handle

As you're moving or copying with drag-and-drop, you must avoid the lower-right corner of the selected range, because it has a special use. Notice the little black square in that corner in Figure 1-9. That's the fill handle. You can drag it to fill adjacent cells with the same value as the current cell (or an incremental value). This feature is called Auto Fill.



*Figure 1-9: The fill handle is the black square in the lower-right corner of the selected range.* 

With text, the same value is repeated in every cell. It also does this with some numbers, as in the following:

1. If 100 appears in cell B1 and you drag the fill handle down to B6. The number 100 is repeated in cells in the range B2:B6.

However, in other cases, Auto Fill increments a number rather than repeating it:

If 1 appears in cell C1, and 2 appears in cell C2, you can select C1 and C2, drag the fill handle (in the bottom corner of C2) down to C6. Excel fills in the numbers 3, 4, 5, and 6.

This also works in other increments:

3. If 100 appears in cell D1 and 150 appears in D2, you can select D1 and D2, drag the fill handle down to D6. Excel fills in 200, 250, 300 and 350. Custom lists are fill series that Excel always attempts to Auto Fill in their prescribed increments.

You can also do this with days of the week, for example:

4. If Monday appears in cell E1 and you drag the fill handle down to E6. Excel fills in the rest of the days of the week. You can also do this with months, etc.

#### **Resizing Rows and Columns**

If you type long entries into cells, the content overruns into the next column. If nothing is in that other column, no problem. If something is in the other column, the overflow cuts off. Figure 1-10 shows what happens with long entries in both cases. B3 and B4 both contain the same entry, "Sales Totals for July," but C3 contains nothing, whereas C4 contains "\$1,000." If you want all the text in B4 to show, you need to widen the B column.

	A	В	С	D
1				
2				
3		Sales Total	s for July	
4		Sales Tota	\$1,000	
5				

*Figure 1-10: Example of what happens when content overruns a cell width.* 

- 1. You can manually drag the divider between two column headings to the left or right to adjust the width of the left column.
- 2. You can also AutoFit a column width, adjusting it so that its widest entry exactly fits. Following are a couple of ways to do that:
  - a. Double-click between two column headings.
  - b. On the Home tab, in the Cells group, click Format and then select AutoFit Column Width.

- 3. To adjust the column width of all columns based on the text, select the entire worksheet (Ctrl+A) and then use the AutoFit feature.
- 4. You can also specify an exact width in number of characters. Column width is measured in characters of the default font. The default width is 8.43 characters.
  - a. To specify exact width:
    - Right-click a selected column and then select Column Width.
      Alternately, on the Home tab, in the Cells group, select Format > Column Width. The Column Width dialog box opens.
    - In the Column width text box, enter a number of characters.
    - Click OK.

#### **Adjusting Row Heights**

You can also adjust the row heights, although this isn't quite as important because row height adjusts automatically to accommodate the largest font used in that row. To adjust the row height, drag between the row numbers, the same as with columns. You also can use the AutoFit Row Height command on the Format button's menu (Home tab, Cells group).

#### Word Wrap

If you set a cell (or multiple cells) to Word Wrap, and the cell isn't wide enough to accommodate all the text, the row height adjusts automatically to allow for multiple rows of text within the cell. To set Word Wrap, select the cell and then on the Home tab, in the Cells group, select Format > Format Cells. On the Alignment tab, check the Wrap text checkbox and then click OK. You can also hold the Alt key down while hitting the enter button where you want the word wrap to begin in a certain cell.

### **Inserting and Deleting Rows and Columns**

If you don't plan your worksheet layout correctly, you might end up with too many or too few rows or columns in a certain area. You can always move data around in the sheet to help with this, but sometimes it's easier to simply insert or remove columns or rows.

To insert a column or row:

- 1. If you want to insert multiple rows or multiple columns at once, select the same number of rows or columns that you want to insert. Once you issue the Insert command, new blank rows will appear above the selected rows and new blank columns will appear to the left of the selected columns.
- 2. If you want to insert only one row or column, you can click in any cell in the row or column adjacent to where the new one should go. You don't have to select the entire row or the entire column.

On the Home tab, in the Cells group, select Insert and then select what you want to insert (for example, Insert Sheet Rows or Insert Sheet Columns), as shown in Figure 1-11.

				🕜 🗕 🗖 🗙
ng 🔹	<b>≓•</b> ■ I)	nsert	Σ·Α	7 43
	-	Insert	Cells	nd 2
	3-0	Insert	lect *	
	¥	Insert	Sheet <u>C</u> olum	ns
		In <u>s</u> ert	Sheet	*
0	3		Н	

*Figure 1-11: The Insert menu enables you to insert rows or columns, in addition to cells and an entire sheet.* 

To delete a column or row (or multiple columns or rows):

1. Select the rows(s) or column(s) to delete.

2. On the Home tab, in the Cells group, select Delete, and then select what you want to delete (for example, Delete Sheet Rows or Delete Sheet Columns).

You can also use the right click shortcut to insert or delete cells.

### **Deleting Versus Clearing a Cell**

Many beginners get confused about clearing versus deleting in Excel. It may be helpful to think of an Excel worksheet as a stack of empty cardboard boxes, each one with its open side facing you. You can put something into a cell or take something out. When you take something out of a cell, it's called clearing its content. The cell itself remains in the "stack," but it's now empty.

#### Clearing content

You can clear a cell's content in several ways:

- Once the cell is selected you can press Delete on the keyboard.
- Right-click the cell and then select Clear Contents.
- On the Home tab, in the Editing group, select Clear > Clear Contents, as shown in Figure 1-12.

Clearing a cell's content doesn't clear its formatting. You can clear formatting from the Clear button's menu; select Clear Formats; or to clear both contents and formats at once, select Clear All.



Figure 1-12: To clear content or formatting from a cell, use the Clear menu.

## Deleting cells

In contrast, deleting the cell removes the cell itself from the stack and makes the surrounding cells shift. Think about what happens when you pull a box out of a stack of boxes -- the boxes above it fall down one position. It's about the same thing with Excel cells, except its reverse-gravity (cells pop up rather than fall down), and you have the choice of making the remaining cells shift up or to the left. Again if you right click you will get the option to move the cells left, right, up or down.

# **Understanding Formulas**

What's a formula?

A formula is an equation that performs some type of operation and issues a result. In Excel, formulas always begin with an equal sign. Here are some formula examples: =2+6: This formula is strictly math. If you place this formula in a cell, the cell displays 8.

- =A1+6: Same as the preceding, but this time you're adding 6 to whichever value is in cell A1 and displaying the result in the cell into which you enter this formula. This formula does not change A1's contents.
- =A1+A2: Same thing again, but you're adding the contents of cell A1 to the contents of cell A2. See Figure 1-13.
- =A1+A2-A3: In this example, multiple cells are referenced.

# Autosum Feature

• If you are adding something up that is in a column or row you can use the Autosum feature (this is found home tab under the editing group).

#### **Understanding Math Operations**

Here are the symbols you can use in formulas to indicate mathematical operations:

- +: Addition
- -: Subtraction
- \*: Multiplication
- /: Division
- ^: Exponentiation (Exponentiation means to multiply the number by itself. For example, 2 to the 4th power is 2 x 2 x 2 x 2 and would be written 2^4 in Excel)

<b>X</b>	J - C	× 🛕   ∓					
F	ile Ho	me Inse	ert Pa	ge Layou	rt F	ormulas	Data
ľ	Cut		Calibri		- 11	· A	≡
Pa	ste 🛷 Form	nat Painter	BI	<u>n</u> .	•	<u>ð</u> , - <u>A</u>	· =
	Clipboard	l G		Fo	nt		Fai
	A3		• (=	$f_x$	=SUN	/(A1:A2)	
	А	В	С		D	E	F
1	6						
2	7						
3	13						
4							
5							
~							

Figure 1-13: Cell A3 shows the result of the formula; the formula bar shows the formula itself.

Below are some formula examples that refer to cells and use math operations. The following values will be used:

A1: 12 A2: 6

A3: 4

A4: 9

The following formulas are used, to produce the results shown in Figure 1-14:

- 1. In cell A5, formula adds A1+A2+A3+A4.
- 2. In cell A6, formula adds A1+A2, and then multiplies the result by the sum of A3+A4.
- 3. In cell A7, formula adds A1+A2+A3+A4 and then divides the result by 4.
- 4. In cell A8, formula that first calculates A4<sup>A</sup>3 and then adds A1 to it.



	А
1	12
2	6
3	4
4	9
5	31
6	234
7	7.75
8	6573

Figure 1-14: A sample worksheet after entering the formulas specified in the preceding steps.

#### **Showing Formulas**

By default, you see the formula results in the cells, but sometimes it can be helpful to see the

formulas there instead. To toggle between the two views, press Ctrl+` (grave accent). This isn't an apostrophe; it's the accent symbol that's immediately above the Tab key on most keyboards. Figure 1-15 shows the same formulas as Figure 1-14, but with the formulas displayed in this manner. Press Ctrl+` again to switch back.



	А
1	12
2	6
3	4
4	9
5	=A1+A2+A3+A4
6	=(A1+A2)*(A3+A4)
7	=(A1+A2+A3+A4)/4
8	=A4^A3+A1

Figure 1-15: The worksheet from Figure 1-14, but with formulas displayed

### **Identifying Some Common Functions**

Here are some of the most commonly used functions:

- =SUM: Adds a range of numbers.
- =AVERAGE: Averages a range of numbers.
- =COUNT: Counts how many numbers are in the range.
- =MIN: Reports the lowest number in the range.
- =MAX: Reports the highest number in the range.
- =TODAY: Shows today's date.
- =NOW: Shows the current date and time.



All of these functions require a single argument (consisting of the range to be acted upon) except for the last two, which do not take any arguments. You just enter a blank set of parentheses after them, like this:

=TODAY()

# **Copying Formulas and Functions**

When you copy a formula or function, you usually don't want an exact copy of it. Instead, you want the copy to refer to its surrounding cells in the same way that the original did. For example, take a look at Figure 1-16, Quarterly Results sheet. The function in D5 is =SUM(B5:C5). You might like to copy this formula to D6, D7, D8, D9 and D10; however, you would want each copy to refer to the appropriate row number, not row 5. To do this you can right click on the cell and choose copy. Right click on the cell that you want to copy the formula in, then choose paste.

	A	В	С	D					
1	Quarterly Results								
2	As of:								
3									
4		Q1	Q2	Total					
5	Tom	234	554	788					
6	Barb	221	529	ľ					
7	Ken	421	511						
8	Skipper	329	597						
9	Midge	291	492						
10	Arthur	140	410						
11	Total	1636							

Figure 1-16: Copying the content of D5 to D6:D10 results in relative copies in each cell.

Excel knows that you usually want cell references to shift, so it uses relative references by default. A relative reference changes when you move it to another cell. For example, if the function =SUM(B5:C5) appears in cell D5, what it is really saying is "sum the values in the two cells immediately to my left." Copying that function to cell D6 would result in =SUM(B6:C6). Excel also offers absolute referencing. With an absolute reference, the cell name(s) don't change when you move or copy the formula or function.

### **Formatting Values**

- 1. Click on Home Tab.
- 2. In the number group, choose what type of number it will be (the default is general) if you are entering currency, make sure that you choose currency. If it is date you entering, choose one of the date features.
- 3. You can add shading/border in this area by clicking on the small arrow in the corner of the group.

#### Sorting:

- 1. You can sort by columns, by choosing the Column heading so the whole column is highlighted. If you have more information in your spreadsheet than just one column you will want to select the whole worksheet.
- 2. In the data grouping choose sort.

### **Common Error:**

• Hash marks (###) in a cell: This happens when the cell isn't wide enough to display its value. You will want to widen the column to fix this.

### **Printing Your Work**

After you create or edit a worksheet, you might want to print a hard copy of it. You can print in two ways:

- Print using the Print dialog box. Here, you can specify the range, the number of copies, the printer to use and more.
- Print using Quick Print. This sends one copy of the active worksheet to the default printer.

To print using the Print dialog box:

- 1. (Optional) If you want to print only a certain range of cells, select them.
  - a. How to set a print area:
    - i. Select the area that you want to print by holding down the left mouse button and drag over the area that you want to print. This will highlight the area.
- 2. Click the File menu and then click Print. The Print dialog box opens, as shown in Figure 1-17.







- 1. In the Printer box, confirm that your desired printer's name appears. If it doesn't, open the drop-down list and select it.
- 2. In the Number of copies text box, confirm that the desired number of copies appears. If it doesn't, use the up or down increment arrow to the right of that box to increment the number up or down.
- 3. In the Settings section, Print active sheets is selected by default. Leave this alone unless you want a certain page range, in which case you should select Pages and then enter the page range You can also choose the drop down arrow and choose Print entire workbook or print selection.
- 4. Click OK to print.

#### **Tips:**

You can make an instant graph by selecting your information and then press F11. You can make changes to the graph (it is now a tab that says Chart 1).

#### Using Format Painter:

You can click on a cell that is already formatted the way you want it. Double click on the format painter button and then you can click on whichever cells that you want to copy that format to.

If you select some items, it will show the number selected, the total and the average at the bottom of the screen.



NOTES
-------

 -()
 <b>`</b>
 $ \overline{00}$
 $\underline{}$
- A
-
 [[[]
— ( <i>«</i>
 -
 — (
 — OČ
 (
ſ
 // {