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SAMPLE

HOW TO USE THIS MANUAL

This manual was designed to be used as a reference. This is not a step-by-step tutorial. Our feeling is that you did not pay to have someone stand in front of class and read you something that you could do on your own. Through our own classroom experience we have discovered that students don't read detailed descriptions and that lengthy text is ignored. They prefer to explore and try things out.

In typical tutorials, students often get lost following rote procedures and get caught in error conditions from which they can't back out of. Besides, once students leave class, they just want something they can use to look up a subject quickly without having to read through an entire tutorial.

Our design ensures that each course is stimulating and customized yet covers the outlined objectives. The left page of your manual is designed for note-taking. That way you won't have to switch between your notebook and a manual whenever you need to look up how to perform an operation.

Keys and commands that you need to press are displayed as icons such as  or .

Each topic starts on a new page, making things easy to find and follow. In addition, topics covering actual commands always begin with the USAGE section where we explain the purpose of the command.

Any keyboard shortcuts will be included within the TIP boxes while mouse shortcuts will always include the MOUSE icon beside it.

The next page shows how a typical topic will be discussed and each part found in the book.

THE TOPIC TITLE WILL BE ON TOP

USAGE:



This part explains what the command is used for, how it works and other miscellaneous information.

Since Excel was written to be used interactively with a mouse, there will be many tools that will be mentioned.



This section lists the keystrokes or function keys the user may press as a shortcut for performing the current command.



NOTE: *This box will mention things to watch out for. The symbol in the left column always indicates an important note to remember.*



TIP: *This box will let you in on a little secret or shortcut. The pointing hand always indicates a "TIP".*

MODULE ONE

- **Spreadsheet Basics**
- **The Excel Screen**
- **Movement Keys**
- **Accessing Help**

SPREADSHEET BASICS

A spreadsheet is the computerized equivalent of a general ledger. It has taken the place of the pencil, paper and calculator. Spreadsheet programs were first developed for accountants but have now been adopted by anyone wanting to prepare a budget, forecast sales data, create profit and loss statements, compare financial alternatives, and any other mathematical applications requiring calculations.

The electronic spreadsheet is laid out similar to the paper ledger sheet in that it is divided into columns and rows. Any task that can be done on paper can be performed on an electronic spreadsheet faster and more accurately.

The problem with manual sheets is that if any error is found within the data, all answers must be erased and recalculated manually. With the computer, formulas can be written that are automatically updated whenever the data is changed. By having formulas that automatically recalculate, you can play with the numbers to see how the final result is affected.

The horizontal bar across the top of the worksheet is filled with letters, beginning with A and ending with the letter XFD. Each letter represents a **column** while the vertical bar along the left side of the worksheet is filled with numbers that refer to **rows**. The rows are numbered 1 through 1048576.

The intersection between a column and a row is referred to as a **cell**. A cell is similar to a box that can be used to store pieces of information. Each piece of information could be a word or group of words, a number or a mathematical formula.

Each cell has its own **address**. This address is used in formulas for referencing different parts of the worksheet. The address of a cell is defined by the letter of the column it is located in and the number of the row. For example, the address of a cell in column B, row 5 would be referred to as **B5**. The column is always listed first followed by the row without any spaces between the two.

These cell addresses are useful when entering formulas. Instead of typing actual values in your equations, you simply type the cell address that the value is stored in. Then, if you need to go back and change one of the values the spreadsheet automatically updates the answer based on the new number(s).

For example, instead of typing 67×5.4 you could enter $C5 \times D5$. The number 67 is stored in cell C5 and the number 5.4 is stored in cell D5. If these numbers change next month or next year, the formula remains correct as it references the cells - not the actual values. With the second formula, you can change the numbers stored in cells C5 and D5 as often as required and see the result recalculate immediately.

RUNNING MICROSOFT EXCEL

USAGE:



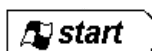
If you have a shortcut on your desktop, double-click on the **Microsoft Excel 2010** icon to run the application.

Although the quickest way of running Excel is obviously through the desktop, you can also access the **Start** menu which allows you to locate any program available on your system.

Follow these steps to run Excel from the Start menu:



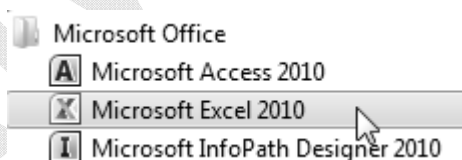
❶



Click on this button (located along the far left side of the taskbar) to access the Windows **Start** menu.

❷

Select **All Programs** from the pop-up menu.

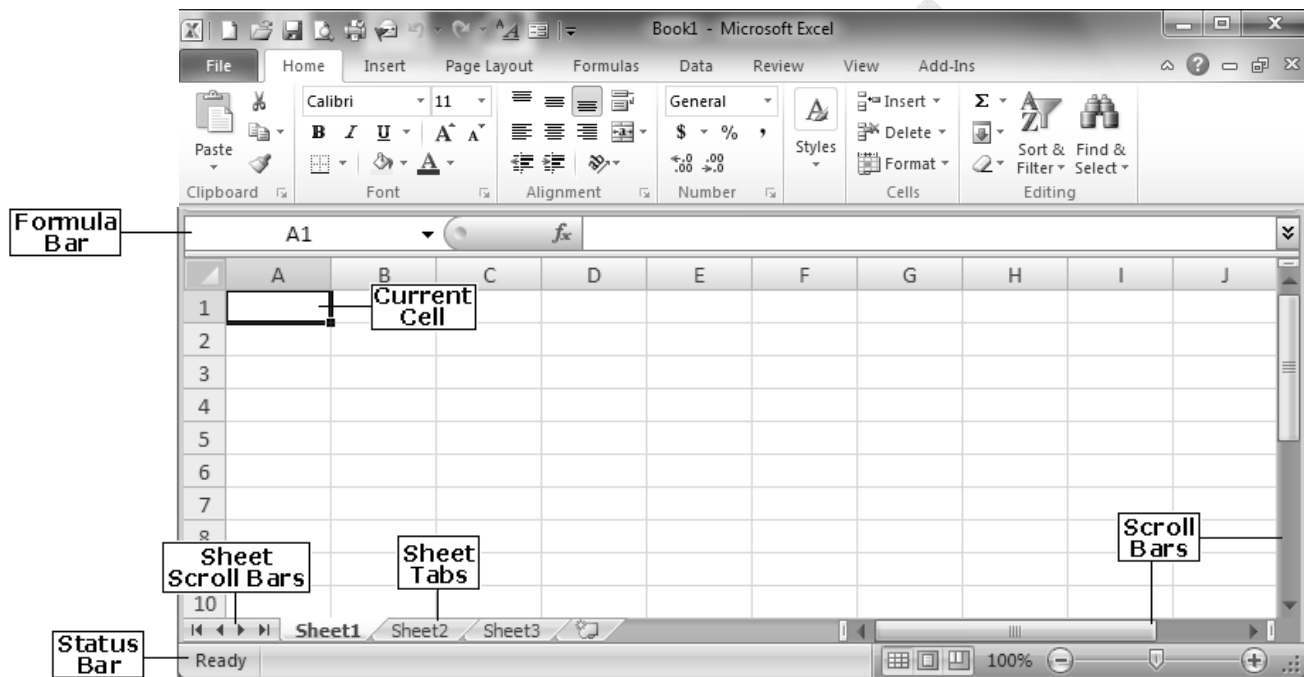


❸


Select **Microsoft Excel 2010** from the sub-menu.

THE EXCEL SCREEN




After you start the program, you are taken into a blank untitled workbook where you may begin entering your data. You will notice that the program window includes many of the standard elements common to most Office 2010 applications as well as a few items that are unique to Excel. The screen can be quite intimidating the first time you see it as there are so many items displayed. However, if you take a few minutes to familiarize yourself with the various screen elements, the program will become easier to work with.



Along the top left corner of the screen is the **File Button** which provides quick access for creating, opening, saving, printing, preparing, sending, publishing, and closing files. Recently accessed documents are also listed under this button. This button provides the only true menu within Excel 2010.

To the right of the Excel Logo is the Save tool as well as the Undo and Redo tools. Since those are tools that are most often used, they are placed in a convenient location on what is referred to as the "Quick Access Toolbar". Click on the button to the right of these tools  to customize this Quick Access Toolbar.

The name of current workbook followed by the application name is displayed in the middle of this line. A generic name is given to each new workbook you create (**Book1**).

The far right side of this line contains three icons for minimizing , maximizing , and closing  the workbook or program.

The second line contains a new feature within Excel 2010. There are tabs located on this line which are used to access a series of **Ribbons** to help you quickly find the commands needed to complete a task. Commands are organized in logical groups that are collected together under these tabs. Each tab on the Ribbon relates to a type of activity, such as inserting an object or laying out a page. To reduce screen clutter, some tabs are shown only when they are needed.

There is no way to delete or replace the Ribbon with the toolbars and menus from previous versions of Microsoft Office. However, you can minimize the Ribbon to make more space available on the screen. To quickly minimize the Ribbon, press **CTRL+F1**. If you prefer using the mouse, point to an empty space just to the right of the last tab across the top of your screen and click the [RIGHT] mouse button. From the pop-up menu, choose **Minimize Ribbon**.

If you press **CTRL+F1** a second time, the Ribbon will again be displayed. If you prefer using your mouse, point just to the right of the last tab and click your [RIGHT] mouse button. From the pop-up menu, again choose **Minimize Ribbon** (this time to de-select it).

Use the **ALT** key to access the ribbon directly from the keyboard. For example, if you were to press **ALT+N**, you could access the "Insert" Ribbon. Each time you press **ALT**, Excel displays corresponding letters for the Ribbon items to help you to continue using keyboard shortcuts to select them.

Along the right side of the screen is the **scroll bar** used to quickly move (vertically) within your workbook. Use the arrows located across the top and bottom of the scrollbar to move up and down. To move more quickly, drag the small rectangle located within the scroll bar to the desired location (up or down).

There is also a horizontal scroll bar that you can use to move left and right through your workbook.



The next section across the top of the screen lists the columns and rows within the current worksheet. As mentioned, columns are lettered and rows are numbered. The first 26 columns are lettered A through Z. Excel then begins lettering the 27th column with AA and so on. In a single Excel worksheet there are 16,384 columns (lettered A-XFD) and 1,048,576 rows (numbered 1-1048576).

The highlighted borders around the document window indicate the columns and rows and are used to identify where on the worksheet you are located since you obviously cannot see an entire worksheet of this size on the screen at one time.

The worksheet itself is located to the right and beneath the borders. This is where you will actually be working and entering information. The outlined cell (the one with the dark borders) within the worksheet is referred to as the **active cell**. Each cell may contain text, numbers or dates. You can enter up to 32,767 characters in each cell.

Towards the bottom of the worksheet is a small **Tab** that identifies each sheet within the workbook (file). If there are multiple sheets, you can use the tabs to easily identify what data is stored on each sheet. For example, the top sheet could be "Expenses" and the second sheet could be called "Income". When you begin a new workbook, the tabs default to being labeled **Sheet1**, **Sheet2**, etc.

Along the bottom of the screen is another bar called the **Status Bar**. This bar is used to display various information about the system and current workbook. The left corner of this line lists the **Mode Indicator** which tells you what mode you are currently working in. When Excel is ready for you to enter text, the mode indicator will read "Ready".

Just below and to the left of the vertical scroll bar is the **Zoom** section. Notice you can click on the increase  or decrease  buttons to change the zoom factor. You can also drag the slider horizontally to change the text size as it appears on the screen. Excel displays the current percentage just to the left of this area.

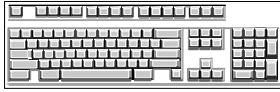
There is also a section labeled **Zoom** on the View Ribbon across the top of your screen which allows you to customize the display size. This section is used to either open a dialog box where you can choose an exact zoom factor, switch back to 100% zoom (which is the default) or zoom in to the current selection. The last option can be useful when working with a block of cells and wanting to only view them as you work.

To the left of the zoom area located along the bottom of your screen are three **View Icons**. These are used to change the current display (Normal, Page Layout, and Page Break Preview). Simply click on the view you want to switch to.

To make working with multiple workbooks less confusing, Excel has included a feature which automatically displays all opened workbooks along the taskbar. Rather than having to access the Ribbon labeled **View** to switch between opened files (windows), you can simply use your mouse to click on the name of the file you want to access directly on the taskbar. Once selected, that file becomes the active window.

NAVIGATING WITHIN A WORKSHEET

USAGE:



Excel offers both keyboard and mouse methods for moving:

	Moves pointer left one column.
	Moves pointer right one column.
	Moves pointer up one row.
	Moves pointer down one row.
	Moves one full screen to the right.
	Moves one full screen to the left.
	Moves one full screen up.
	Moves one full screen down.
	Moves to the beginning of the row.
	Moves to the next blank/filled cell in a row.
	Moves to the first blank/filled cell in a row.
	Moves to the next blank/filled cell in a column.
	Moves to the previous blank/filled cell in a column.
	Moves to beginning of worksheet (A1).
	Moves to bottom right corner of worksheet.
	The GOTO key allows you to go to any cell. You must know the cell address. You can also press



Click in this box and type in the cell address to go to. You must press when done.

You can also use the vertical (down the right) and the horizontal (along the bottom) scroll bars to move. Drag the box in the scroll bar to move more quickly. The pointer does not move until you click in the cell to move to. Remember to look at the formula bar for the current cell address.

If you are using a mouse with a scroll wheel, roll the rubber wheel (located between the **[LEFT]** and **[RIGHT]** mouse buttons) forward or back to quickly scroll through large worksheets.

Excel lights up column and row headings as you move from cell to cell. This helps to distinguish the current cell address.

CHANGING THE WORKBOOK VIEW

USAGE:

By default, you are placed in “Normal” view which simply displays the worksheet. However, if you’d prefer to see the headers, footers, and rulers you can switch to “Page Layout” view. To see exactly where page breaks will occur when printing, switch to “Page Break Preview”. To switch between the views, click on one of the following tools (located along the bottom right side of your screen or within the “Workbook Views” section on the View Ribbon):



This tool displays **Normal** view.



This tool displays **Page Layout** view.



This tool displays **Page Break Preview**.

In addition to the three views discussed above, you can create your own custom views (discussed in the advanced manual).



To switch to a **Custom View**, click on this tool (located within the “Workbook Views” section on the “View” Ribbon). A small dialog box will open allowing you to choose from a list of saved views.

You can clear the Office menu, tabs and current Ribbon from your screen so that you can see more of your worksheet.



To switch to **Full Screen** mode, click on this tool (located within the “Workbook Views” section on the “View” Ribbon). To redisplay the screen items, simply press the **ESC** key.

SHOWING/HIDING SCREEN ITEMS

There is a section on the View Ribbon labeled **Show/Hide** that can be used to display or hide screen elements (these include the ruler, gridlines, the Message Bar, the Formula Bar, and headings). When checked, the item is displayed and when left unchecked, the item is hidden.

WORKING WITH HELP

USAGE:

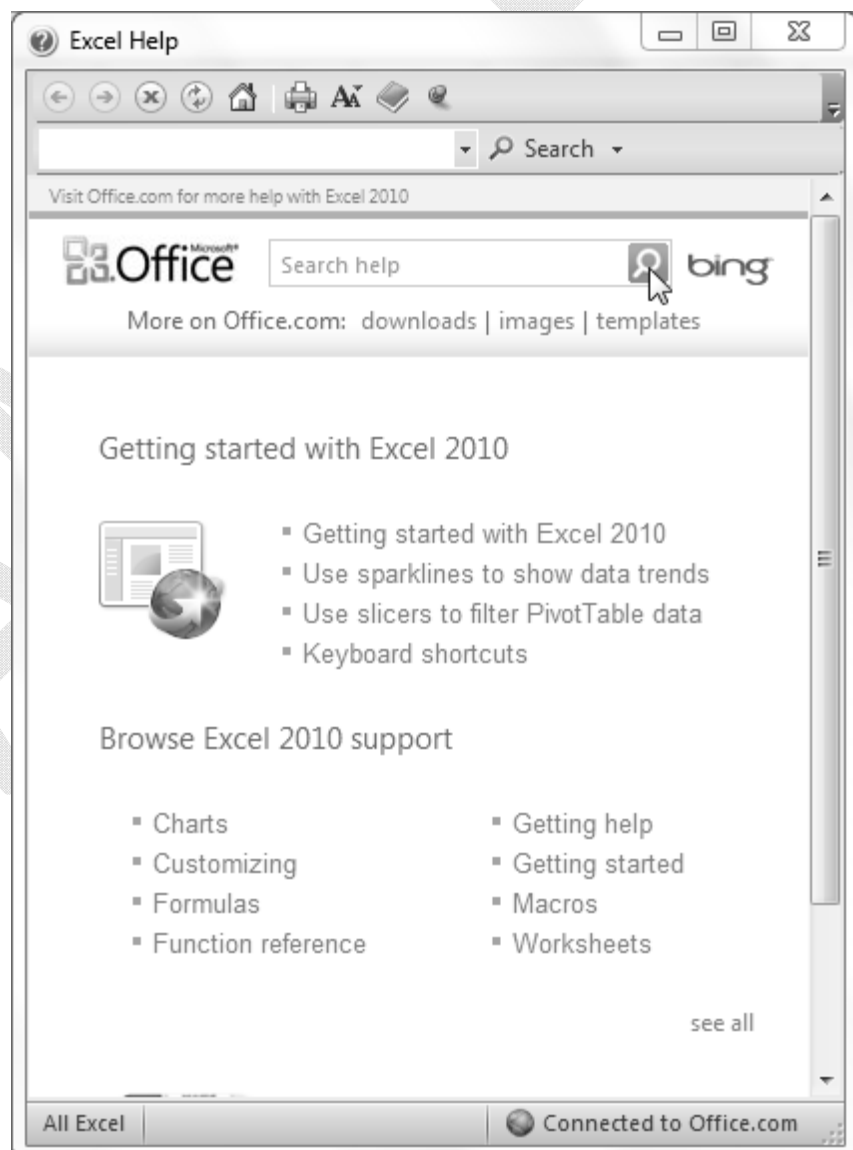


Excel has an extensive help database that can assist you with virtually any topic you encounter while working with the program.

Help can be as generic as explaining how to print within the program or as specific as detailing each item within a dialog box.



To display help, simply click on this tool (located on the far right side of the tabs and just above the Ribbon).



Notice that a generic group of topics is listed in the help box when you first enter it. If you don't see the topic you want help on, simply click in the text box provided towards the top of the help window and then enter the topic (e.g., printing). When done, press **ENTER**.

Excel will search through its help database and replace the current list with a group of topics related to the item you entered.

There are several buttons across the top of the help window:



If you have been moving between help topics, click on the back arrow button to return to the previous help topic.



If you have returned to a previous help topic, click on the forward arrow button to display the next topic.



If you are viewing a topic online and it is taking a long time to load, click on this button to cancel the help page.



Click on this button to refresh the help window.



Click on this button to return to the original help topic list.



Click on this button to print the current help topic.



Click on this button to increase/decrease the text size for viewing purposes in the help window.




Click on this button to access Excel's complete table of contents for help. A task pane will be opened along the left side of the window, listing all of the help topics and allowing you to scroll through them. Click on this button a second time to close the task pane.



Click on this button to keep the current help topic on top.



Click on the down arrow  beside this button to select the type of help topic you would like displayed.



Offline

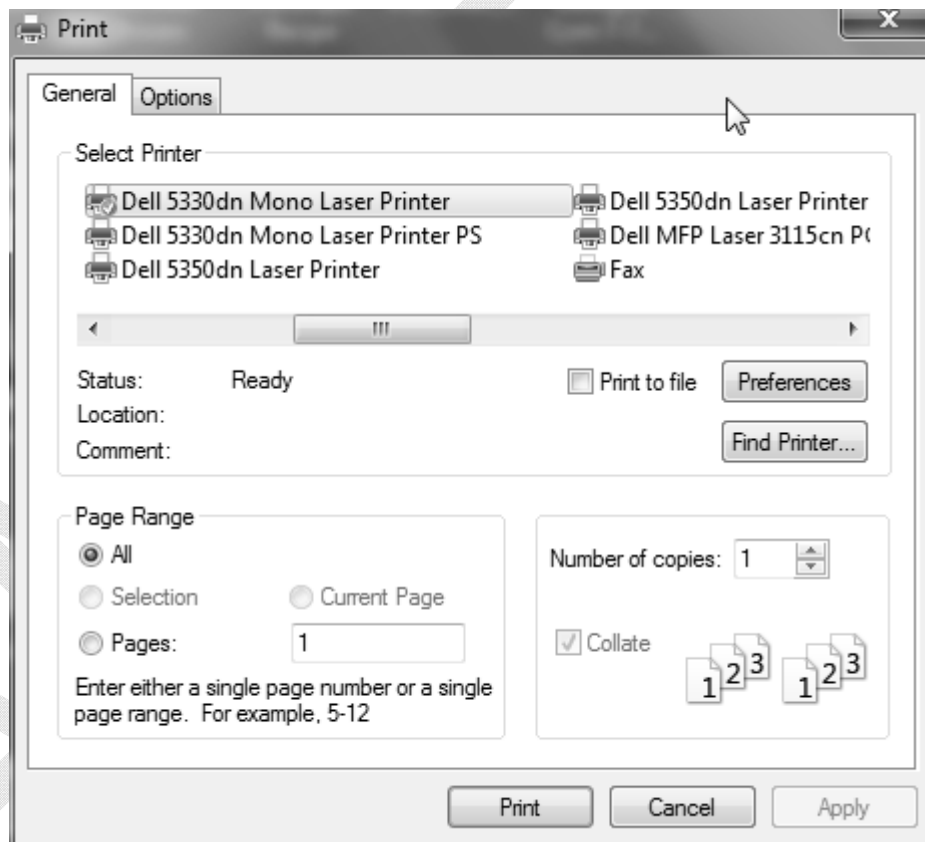
Click on this button to specify whether you want to search for online help or display only the offline topics that come with Excel.

PRINTING HELP TOPICS

If you find a help topic that you feel might be a good idea to print, you can have Excel send that topic to the printer. This comes in handy when a screen lists several choices or perhaps lists various keyboard shortcuts.



Click on this tool to print the current help topic. A dialog box containing two tabs will be displayed:



The first tab (labeled **General**) is divided into three main sections, as discussed below:

- | | |
|-------------------------|--|
| Select Printer | This section is used to select the printer. There is also a checkbox to print the topic to a file. |
| Print Range | Use this section to specify the print range. |
| Number of copies | Sets the number of copies to print. If you are printing more than one copy of a multiple page topic, you can check the Collate box to have Excel organize each set of copies for you. |

The second tab (labeled **Options**) contains the following items:

Print frames

This section is only used for documents that have been divided into multiple frames and is not available at this time.

There are also two check boxes at the bottom of the this dialog box that allow you to print related linked documents as well as a table that lists the links in the document.

Printing all links will also print any documents referred to (via links) by the displayed topic. Printing a table of links adds a table at the end of the printout which lists all linked documents.

When done, choose  to begin the printing.

EXITING HELP



Click on this button (located in the top right corner) to **close** the help window and return to your workbook.

SCREENTIPS

A problem some users encounter is not knowing what each tool on the screen represents.

For example, the SAVE tool is displayed as a 3.5" diskette which some users do not immediately relate to saving a file. To alleviate this problem, Excel offers mouse assistance on each tool, referred to as ScreenTips.



Paste (Ctrl+V)
Click here for more options such as pasting only the values or formatting.

As you point to a tool, Excel will display a quick note as to the tool's function.



NOTES:

Lined area for taking notes, consisting of 20 horizontal lines.

SAMPLE

MODULE TWO

- **Entering/Editing Data**
- **Deleting Information**
- **Adjusting Column Widths**
- **Creating Formulas**
- **Filling Data & Formulas**
- **Saving a Workbook**
- **Previewing/Printing**
- **Changing Page Setup**
- **Closing a File**

ENTERING INFORMATION

USAGE:

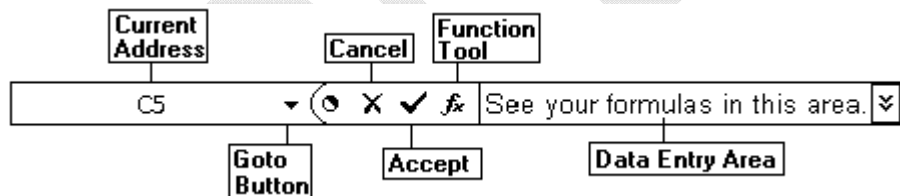


Excel allows you to type in words, numbers or formulas.

Click in the cell you want to store the data in and then simply begin typing the word(s), number or formula.

If you make a mistake and want to start over, press **[ESC]**.

Notice as you type, the entry is displayed both in the cell and in the formula bar. A thin, blinking cursor appears to the right of the entry and moves as you type.



If you make a mistake while typing, use the **[BACKSPACE]** key to correct what has already been entered.

You cannot use the arrow keys at this time to make corrections! Pressing an arrow key at this point will enter what you have typed in the cell and then automatically move the pointer in the direction of the arrow key you pressed.

Two symbols also pop up to the left of the formula bar. The ☒ can be used by mouse users instead of pressing the **[ENTER]** key. The **X** is used like the **[ESC]** key to cancel.


When entering text, words are automatically left aligned within the cell while numbers are placed to the right.

While entering columns of numbers, the column heading may not align correctly with the values. If text is wider than the cell it is stored in, it will appear to "spill" into the adjacent cell(s), providing they are empty.

THE AUTOCOMPLETE FEATURE

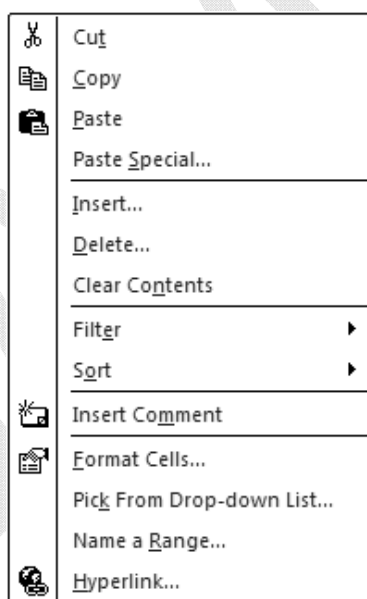
To save you from typing the same entry more than once, Excel offers a feature referred to as **AutoComplete**.

This feature tries to predict (based on your previous entries), what word you are currently entering. For example, if you have entered the word **East** in one or more cells in the current column/row, the next time you begin a cell entry with the letter **E**, Excel will fill the cell with the word **East**.

To accept this entry, simply press . Naturally, Excel is not always correct so if the prediction is wrong, simply continue typing.

PICK FROM LIST

If you have a large column of repeated entries, instead of continuously having to type the entries in yourself, you can select them from a list that Excel automatically generates from the current column entries.



Move to the cell where you want the entry placed. Click the **[RIGHT]** mouse button once.

From the pop-up menu that appears, select **Pick from Drop-down List....**



Atlanta	▲
Chicago	
City	
Dallas	
Denver	
Detroit	
Houston	
Los Angeles	▼

From the list provided, select the entry you would like placed in the current cell.



NOTE:

For this feature to work, you must select a cell directly beneath the current list of entries. If a blank cell exists between the current entries and your selected cell, the list will be empty.

PRACTICE EXERCISE

- Instructions:**
- 1** Type in the information as it appears below.
 - 2** Do not worry about the information lining up at the moment. We will go back later and correct any problems.

CITY	JANUARY	FEBRUARY	MARCH
Chicago	4	4	6
Denver	4	6	6
Dallas	8	5	4
Boston	7	8	8
Los Angeles	12	15	22
New York	4	6	7

EDITING DATA

USAGE:



If you type something in a cell and then decide later to change or correct it, place your pointer on the cell to edit and reactivate it by selecting from one of the two methods mentioned below:

Double-Click on the cell you want to edit.

If you prefer using the keyboard, press **F2**

Your cursor will appear within the cell in the form of a vertical bar and you will be able to use **~BACKSPACE** and **DEL** to make corrections.

You can also use the following keys for movement while editing:



Moves to the beginning of the entry.



Moves to the end of the entry.



Moves the cursor to the right one character.




Moves the cursor to the left one character.



Moves the cursor one word right.



Moves the cursor on word left.

When done editing the cell, press **ENTER** or click on .

DELETING DATA

USAGE:

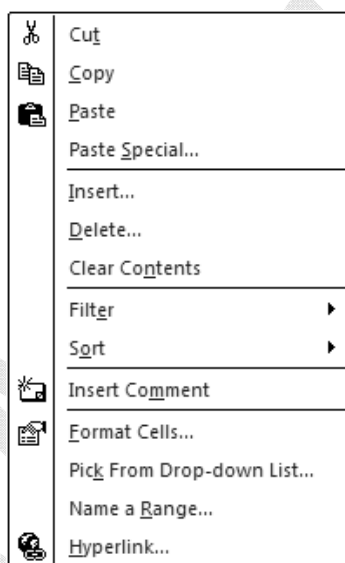
Although you can type over existing data (simply replacing it with the new information), there may be times when you would like to clear a cell out so that nothing is stored in it. In those instances it would make sense to delete the contents of the selected cell(s).

To delete the contents of a cell, follow these mouse steps:



- 1 While pointing to the cell you want to clear, click the **[RIGHT]** mouse button once.

- 2



From the pop-up menu that appears, select **Clear Contents**.

If you prefer using the keyboard to delete the contents of a cell:



Move to the cell and press the **[DEL]** key once.

CLEARING A CELL

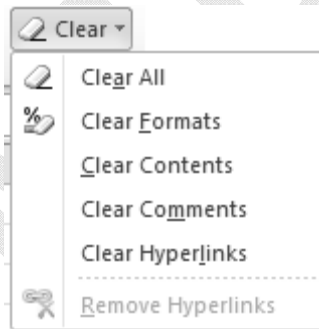
Excel not only allows you to clear the contents of a cell (the actual data), but also the format and/or comments attached to the cell.

A single cell may contain one or more of the following:

Formats Includes fonts, bold, borders surrounding the cell(s), as well as, number formats (e.g., dollar signs).

Contents The data stored within the cell (numbers or text).

Comments Can be attached to a cell to explain the reasoning behind its entry (e.g., when entering complex formulas). These comments are usually not printed.



Click on this tool (located within the “Editing” section on the Home Ribbon).

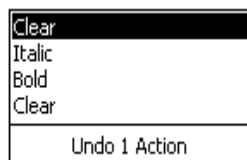
Choose what you want to clear from the pull-down list provided.


OOPS! UNDOING THE DELETION

Excel has the capability of remembering the last several actions performed and allows you to change your mind about most changes you have made.



Click on this tool (located towards the top left corner of your screen) to undo the last action.



If you click on the down arrow  (to the right of the tool), you can scroll through the last several actions.

Move your mouse down the list to highlight the number of actions to undo. They must be done in sequence!

REDOING COMMANDS

If you undo a set of actions and then change your mind (again), you can always "Redo" what you have just undone.



Click on this tool (located towards the top left corner of your screen) to redo the last undo.

WORKING WITH BLOCKS

USAGE:

Many commands and operations require that you work on more than one cell at a time. While you may not require the entire worksheet, you may need to work on a **Block** of cells.

A block includes any group of cells in a rectangular format, as shown in the illustration below.

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									

Every block of cells has a beginning and ending address. The beginning address is the address of the cell in the top-left corner of the block whereas the ending address is the cell in the lower-right.

Normally, in the English language we use a dash to indicate a block of numbers, as in pages 5-20. Excel, however, requires that you use the colon between the beginning and ending addresses. Remember that the dash represents subtraction in spreadsheet programs. For example, the block C3:E14 refers to cells C3 through E14.

There are many commands (e.g., deleting, copying, formatting) that require the use of blocks.

MOUSE SHAPES

When working with Excel, it is very important to keep an eye on the mouse pointer as it changes shape depending on its current function, as discussed below:



If the mouse is in the shape of a thick cross, it can be used to select a single cell or block of cells for editing purposes.

The mouse changes to the thick cross when placed in the middle of a cell. Dragging the pointer when it is this shape simply highlights cells.



If the mouse is in the shape of a diagonal arrow, you can move the contents of the currently selected cell or block of cells to another location within the worksheet.

The mouse changes to a pointer only when the tip of the arrow points to one of the outer borders of the cell block. Dragging the pointer when it is in this shape actually picks up the contents of the cell(s) and moves them to another location.



If the mouse is in the shape of a thin cross-hair, you can fill a formula or other information into adjacent cells within the worksheet.

The mouse pointer changes to a thin cross-hair only when the tip of the arrow is placed in the small square located in the bottom right-corner of a cell. Dragging the pointer when it is in this shape fills data.



SELECTING A BLOCK OF CELLS

Place the mouse in the middle of the first cell. The pointer's shape should be a thick cross-hair. Click and drag to highlight.

To select an entire column or row, click on the letter of the column or the number of the row.

Hold the **SHIFT** key down and press the arrows to select a block.

SELECTING A CONTIGUOUS BLOCK OF CELLS



- ❶ Click in the first cell of the block to be highlighted.
- ❷ Move to the last cell (do not click the **[LEFT]** mouse button).
- ❸ In the last cell, hold the **SHIFT** key down and click the **[LEFT]** mouse button once.


SELECTING NONCONTIGUOUS BLOCKS OF CELLS



- ❶ Click on the first cell.
- ❷ Move to each cell or group of cells to be selected and hold **CTRL** down while you click the **[LEFT]** mouse button.

SELECTING THE ENTIRE WORKSHEET



Click Here 

	A	B
1		
2		

To select the entire worksheet with a single click of the mouse button, point to the square - just above the first row indicator and to the left of the first column indicator and click the **[LEFT]** mouse button once. The entire worksheet will be highlighted.

ADJUSTING COLUMN WIDTH & ROW HEIGHT


USAGE:

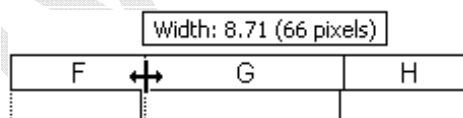
Sometimes cell entries are too long to fit into the standard width columns. Text will appear to "spill" over into adjacent cells as long as those cells are empty. If the adjacent cells are not empty, Excel will truncate the text.

When entering large numbers, however, Excel will display the number in scientific notation if the column is not wide enough to display the entire number. However, if you apply formatting (such as dollar signs), Excel will automatically adjust the column to fit the largest entry so that the number remains visible.

Should a cell be too narrow for text or numbers that you have entered, you can widen the column in which the entry is located by following the steps outlined below:



- 1 Place the mouse pointer in the column heading area to the right of the lettered column to adjust. Make sure the mouse pointer is on the column margin line. The pointer changes to a cross-hair  indicating you are on the margin line.
- 2 Click and drag the column margin line either to the right (expanding it) or to the left (shrinking it).



In the example above, column F is being stretched to the right. Notice the "cross-hair".



NOTE: To change the height of a row, place the mouse pointer on the bottom line of the row number (located on the left side of the worksheet). A thin cross-hair will appear. When you see the thin cross-hair, drag the mouse up/down to adjust the row's height.



TIP: If you **double-click** the column or row margin line, Excel will automatically adjust the width of the column or row to fit the largest cell in the column/row.



NOTE: You may also change the width of multiple columns or rows at once, by selecting the columns or rows (by clicking and dragging the mouse over each of the column letters or row numbers) before adjusting their width/height.

ENTERING A FORMULA

USAGE:



Formulas are used to obtain answers based on mathematical equations that you design. Formulas can be as simple as "2+2" or as complex as calculating the depreciation of fixed assets. When creating formulas, you may use actual values, cell addresses or a combination of the two.



- 1 The equal sign (=) is used to indicate to Excel that you are about to enter a formula. This also ensures that formulas beginning with a cell address are not mistaken for text.
- 2 Next, you must enter the actual formula for Excel to calculate. When entering these formulas, the following basic mathematical operators are used:

+ (add) - (subtract) * (multiply) / (divide)

- 3 When a formula is complete and the **ENTER** key has been pressed, the result will be displayed in the current cell. The formula itself is displayed in the formula bar (located in the upper-left of the screen next to the cell address).



NOTE: In order to view a formula, you must select the cell in which it is stored.



TIP: If you select a group of cells and look at the status bar (at bottom of the screen), Excel will display the total (sum) of the selected cells.

ENTERING NATURAL LANGUAGE FORMULAS

Excel has the ability to understand and translate natural language formulas. This means that you can type in a formula using the names associated with the data instead of trying to remember the actual cell addresses. This can be extremely helpful for new users who have not worked with other spreadsheet applications.

It is important, however, to understand how Excel associates the labels with the numbers. Using the example shown below, **FY 2005** and **FY 2006** refer to the columns of values stored beneath them while **1st qtr** refers to the values placed in cells B2 and B3.

	A	B	C	D
1		FY 2005	FY 2006	Totals
2	1st Qtr	\$ 30,000	\$ 50,000	\$ 80,000
3	2nd Qtr	\$ 45,965	\$ 65,000	\$ 110,965
4	3rd Qtr	\$ 51,355	\$ 75,000	\$ 126,355
5	4th Qtr	\$ 56,450	\$ 56,450	\$ 112,900
6	Total	\$ 183,770	\$ 246,450	\$ 430,220

To create a formula that calculates the total for the 1st quarter, you would move to cell D2 and enter either of the following formulas:

=B2+C2

=FY 2005+FY 2006

The second formula (shown above) takes advantage of Excel's natural language feature. (Notice the space between **FY** and **2005**. Without this space, Excel would read the formula as referring to cell **FY2005** in the current worksheet.)

To create a total for FY 2005, you would move to cell B6 and enter either of the following formulas:


=B2+B3+B4+B5

=1st qtr+2nd qtr+3rd qtr+4th qtr

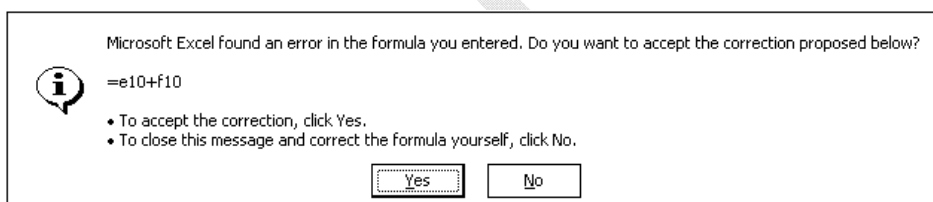
The second formula uses Excel's natural language feature.

CORRECTING FORMULAS

Excel can help to locate errors by checking your formulas for common mistakes and offering a suggested correction.

When you press the  key after typing in a formula, Excel checks the formula for possible syntax errors.

If an error is encountered, a dialog box will pop-up explaining what Excel thinks is the problem with the formula and asking if it should correct the formula based on its suggestion.



Select  to have Excel change the formula based on its suggestion.

Click on  to cancel this box and correct the error yourself.



NOTE: *If you enter one of the natural language formulas (discussed on the previous page) and include a label with spaces (e.g., 1st Qtr), Excel will display an error message and suggest that quotes be added to the labels in the formula.*

PRACTICE EXERCISE

Instructions:

- 1** Widen columns B and C so that there is plenty of room for the column headings.
- 2** Add the heading to column E.
- 3** Enter a formula to calculate the quarter total by adding the three months together.

Enter the formula in cell **E2** only! The next exercise will teach you how to fill the formula to the other cells in column E.

CITY	JANUARY	FEBRUARY	MARCH	QUARTER TOTAL
Chicago	4	4	6	14
Denver	4	6	6	
Dallas	8	5	4	
Boston	7	8	8	
Los Angeles	12	15	22	
New York	4	6	7	

USING THE AUTO FILL

USAGE:



- ❶ Place your mouse over the small square in the lower right corner of the cell containing the formula you want to copy. The pointer should change to a thin cross-hair **+**.
- ❷ Click the **[LEFT]** mouse button and drag so that all destination cells are selected. When the mouse is released, the formula will be "filled" in all cells.

Jan-06				
Jan-06	Feb-06	Mar-06	Apr-06	May-06

Dragging this corner....

.... creates this list.

Filling also works for text and numbers without formulas, such as months (shown in the example above). In this example, entering "Jan 2006" converts to Jan-06 and can then be used to fill a block of cells with other months.

Excel's auto fill feature will fill a block of cells with either numbers or text depending on what is located in the first cell.

As you begin filling the destination cells with months, Excel will display the name of each month as it is being filled so that you know how far to fill.



TIP: To quickly fill the current cell with the contents of the cell above it, press **CTRL+D** (to fill downward).

To fill the current cell with the contents of the cell to the left of it, press **CTRL+R** (to fill right).

When working with numbers, however, you must enter two cells of data so that Excel knows what increments the numbers should be increased by each time. If you only enter a single number and then try to create a fill based on that single cell, Excel will simply copy the number down the worksheet.

To fill cells with a series of numbers, follow these steps:



- ❶ Select the two cells containing the numbers. Once the two cells have been selected, release the mouse button.
- ❷ Move the mouse to the bottom right corner of the second cell. The pointer should change to a thin cross-hair **+**.
- ❸ Click & drag the mouse to fill the other cells.

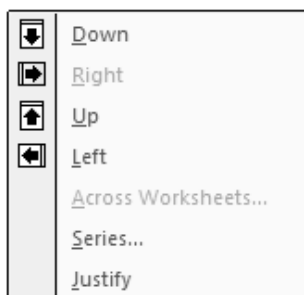
USING THE FILL TOOL

You can fill cells in any direction and into any range of adjacent cells using the fill tool.




After selecting the cells to fill, click on this tool (located within the Editing section on the Home Ribbon).

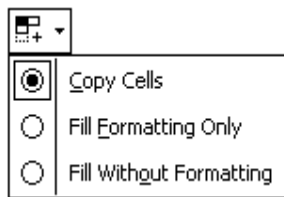
A pull-down list of fill options will be displayed:



Select the direction of the fill or define the series to use when filling.

AUTO FILL OPTIONS

Once you have used the auto fill feature, a small icon  will be placed in the bottom right corner of the last filled cell.



When you click on this icon, a list of auto fill options is displayed. The default option is **Copy Cells** which instructs Excel to copy the data and formatting from the original cell to the destination cells.

The **Fill Formatting Only** option is used to copy the format from the original cell to the destination cells. This does not copy the data from the original cell.

Select **Fill Without Formatting** to copy the data from the original cell to the destination cells without changing the existing format.



NOTE: *These auto fill options will vary depending on what you have just filled (e.g., a formula, a number, a month).*

SPELL CHECKING THE WORKSHEET

USAGE:

Before saving and printing the worksheet out for others to read, you should always check it for typing errors. By comparing words in your file against the dictionary, Excel can check your spelling and alert you of possible mistakes.

For each word that the program cannot find in its dictionary, Excel asks you what to do. You can choose to change the spelling of the word, suggest alternatives, leave the word as it was entered, or add the word to the dictionary. Excel also checks for repeated words and incorrect capitalization.



Click on the **Spelling** tool (located within the “Proofing” section on the Review Ribbon).

Excel will display the following box:

Not in Dictionary:

Dallas

Ignore Once

Ignore All

Add to Dictionary

Suggestions:

Dallas

Change

Change All

AutoCorrect

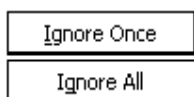
Dictionary language: English (U.S.)

Options...

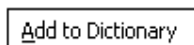
Undo Last

Cancel

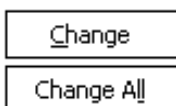
The top section of the box contains the first unrecognized word. The lower portion of the dialog box contains suggestions for correcting the flagged word.



If the word should remain as it is, select the **Ignore Once** button. Excel also offers the option of **Ignore All** if the word in question appears throughout the worksheet.



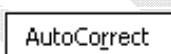
If the word should be added to your custom dictionary for future reference, click on this button.



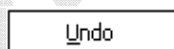
If one of the suggestions is correct, double-click on the correct spelling or highlight the word and choose the **Change** button. If you are afraid you misspelled a word more than once, click on the **Change All** button.

If both the word and suggestions are incorrect, you can type the correct spelling in yourself since your cursor is already blinking in the top section (beside the selected word).

Afterwards, press  or select **Change**.



Use this button to add the word to the AutoCorrect list. In the future, when you misspell this word while typing, Excel will automatically correct it - without you having to access the spell checker.



Reverses the latest actions made during the current spell checking session.

Options...

This button is used to change the options associated with the spelling features.

You will be taken to a box that provides a variety of options to customize how the spell checker works. For example, you can choose to ignore words in uppercase, ignore words that contain numbers, ignore Internet and file addresses, specify whether to flag repeated words, enforce accented uppercase in French, suggest from the main dictionary only, or select custom dictionaries to use.

OK

Once all options are selected, choose **OK**. You will be returned to the original spell checking box where you can continue.

After running the spell checker, be sure to save your workbook.

SAVING YOUR WORKBOOK

USAGE:

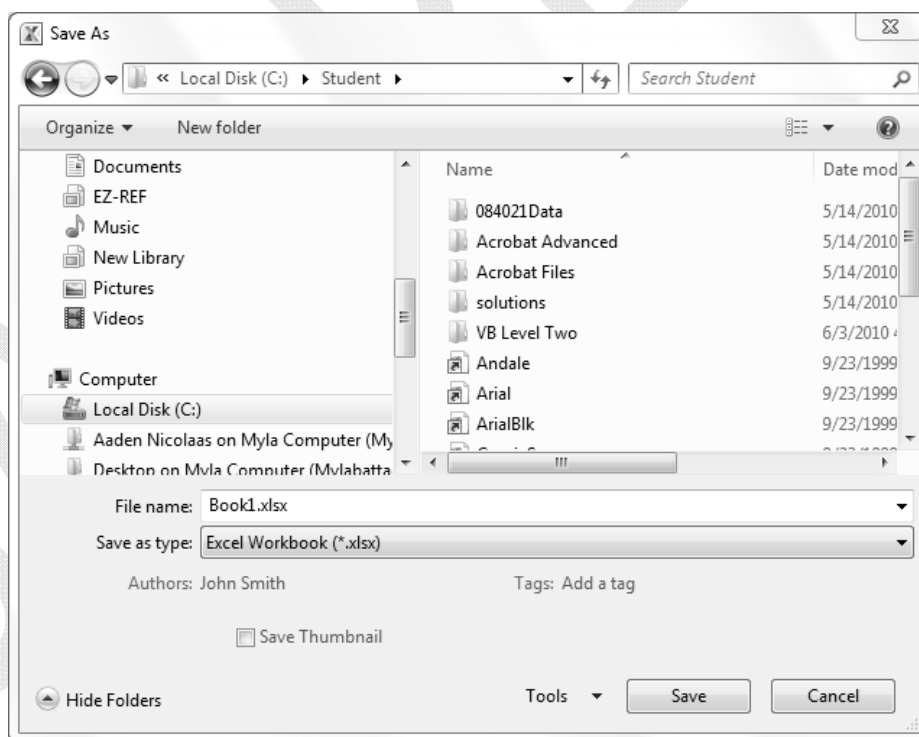
After having entered data in your workbook, you will want to save it and assign a name that will allow you to easily find it again. If you click on the **File Ribbon**, you will notice two options for saving a document: **Save** and **Save As**.

Save is the normal save feature which will ask you the first time you save a file to assign a name to it. From that point on, choosing **SAVE** will simply update the file to include the new information. On the other hand, **Save As** saves an existing file under a new name or as a different format to be imported into another program.





Click on the **Save** tool (located on the Quick Access Bar).

The first time you save a workbook, Excel provides a dialog box prompting you to enter a file name, as shown below:

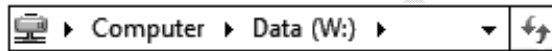


Letters, numbers and spaces are allowed. Enter 1-255 characters.

Notice that Excel defaults to assigning the new “xlsx” extension. This extension is new in version 2010.


Along the left side of the dialog box, Excel displays the **Navigation Pane**. This pane lists common/favorite locations (links) as well as a section for browsing your folders and drives. You can hide/display the “Folders List” section at the bottom of this area by clicking on the   arrows.

In this latest version using Windows 7, the address bar is displayed a bit differently, as shown below:





The path is displayed horizontally on the bar instead of vertically (as was the case in previous versions). For example, in the diagram shown above the currently selected item is the “Data” drive (W) which is part of your computer. To get to that folder, you had to first choose your computer, then the Data drive (W). This new layout is commonly referred to as “bread crumbs” because it shows you the path that was taken to get to the current location.



You can easily move to another folder on the “W” drive by clicking on the  arrow beside the drive name and then selecting a different folder to view.

In the box provided, enter a name for the new file.

If you want to save the workbook in another format (such as another spreadsheet application or any previous version of Excel so that someone else can edit the file who does not have this version), click on the down arrow  beside the box labeled **Save as type** and select the format from the list provided.

Enter a name for the workbook in the box labeled **File name** and then click on  to actually save the file.



TIP: The shortcut key for saving is **CTRL+S**.

PREVIEWING A WORKBOOK

USAGE:

Previewing shows you the portion of the document that will be printed and how the spreadsheet will be positioned on the page(s) without actually printing a copy.





Click on the **File Ribbon**.

Scroll down and select **Print** from the **File Ribbon** to view the Excel Backstage Printing View. This view combines **Preview**, **Page Setup** and **Printer Properties** as shown below:

Region	October	November	December	Qtr Totals
Pacific	230	180	120	530
Northwest	160	110	90	360
Northeast	250	220	200	670
Gulf	310	290	250	850
Southeast	260	210	180	650



You will see options at the bottom of the screen to **Zoom**  and  **Change Margins**

When zooming you will be able to use your **Scroll Bars** to move around the **Print Preview** screen.

When done zooming press the  **Zoom** button again to turn it off.

Clicking on any other **Ribbon** will exit the **File Ribbon** and return to the workbook.

CHANGING THE SETTINGS

USAGE:

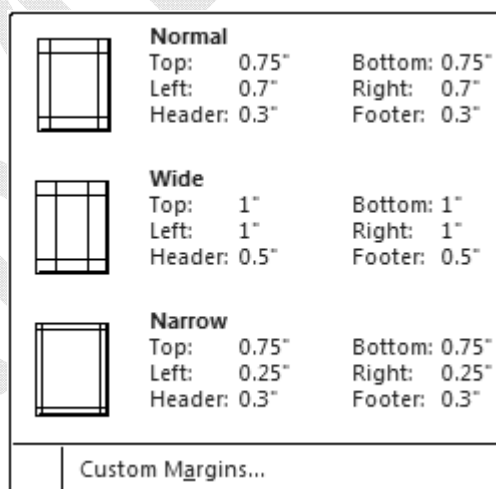
Before you actually print a worksheet, you may want to customize the file to change margins, adjust page orientation, add headers/footers, or modify other features.

All of these options are found on the **Page Setup** group of the **Page Layout Ribbon**.

CHANGING MARGINS



Click on the **Margins** tool (located within the Page Setup section on the Page Layout Ribbon) to access a list of preset margins.



Select the new margin setting from the list provided.

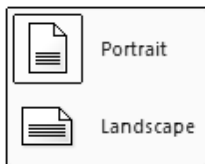
If you need a margin setting that is not included in this pull-down list, click on **Customize Margins....** (located at the bottom of the list) to open a dialog box where you can enter custom margins.



CHANGING ORIENTATION



Click on the **Orientation** tool (located within the Page Setup section on the Page Layout Ribbon) to access the page orientation options.

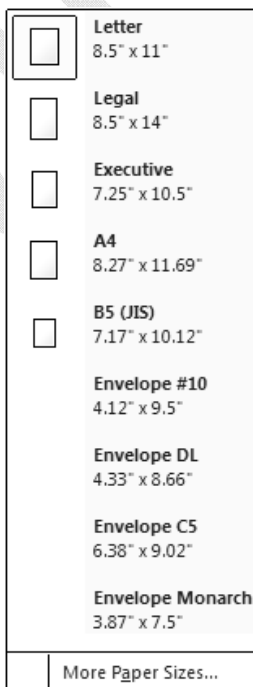


Select the page orientation from the two diagrams provided.

CHANGING PAPER SIZE



Click on the **Size** tool (located within the Page Setup section on the Page Layout Ribbon) to access the paper size options.

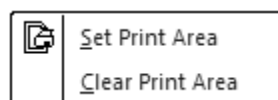


Select the paper size you would like to use when printing your worksheet. If you don't see a size in the list, click on **More Paper Sizes...** to access the Page Setup dialog box.

CHANGING THE PRINT AREA



Click on the **Print Area** tool (located within the Page Setup section on the Page Layout Ribbon) to define or clear the print area.

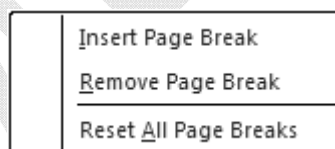


Choose to either set the print area or clear it.

SETTING/REMOVING PAGE BREAKS



Click on the **Breaks** tool (located within the Page Setup section on the Page Layout Ribbon) to insert a page break, remove one you previously set, or reset page breaks within the worksheet.

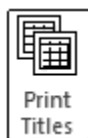


Choose whether you want to insert a page break, remove one, or reset all page breaks within the worksheet.

APPLYING A GRAPHICS BACKGROUND

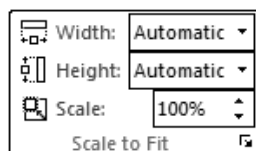


Click on the **Background** tool (located within the Page Setup section on the Page Layout Ribbon) to insert a graphic file as a background for your document. You'll be taken to a dialog box where you can search your system for a file to use.



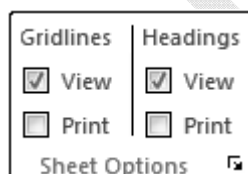
Click on the **Print Titles** tool (located within the Page Setup section on the Page Layout Ribbon) to specify which rows and columns are to be repeated on each page. You will be taken to a dialog box where you can define which columns/rows to repeat.

SCALING THE DOCUMENT



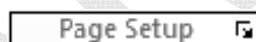
Use these tools (located within the **Scale to Fit** section on the Page Layout Ribbon) to specify an exact size for the worksheet when printing.

SHEET OPTIONS

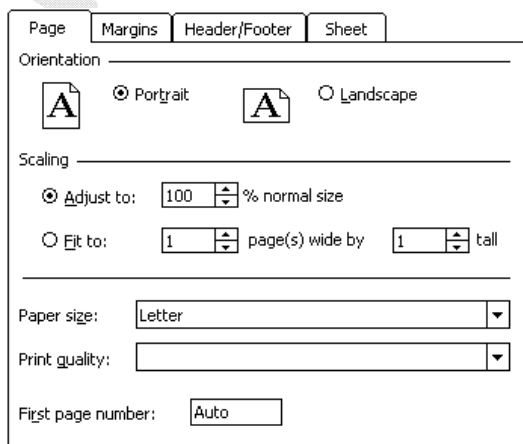


Use these checkboxes (located within the **Sheet Options** section on the Page Layout Ribbon) to specify whether gridlines and column/row headings will be displayed on the screen and/or included in your printout.

ACCESSING THE PAGE SETUP DIALOG BOX



Click the **Page Setup Dialog Box Launcher** (located on the Page Layout Ribbon).



Within the tab labeled **Page**, the following options are available:

Orientation

Use this section to change the paper orientation to **Landscape** or **Portrait**.

Scaling

This section allows you to enlarge or reduce the printout. Not all printers will be able to use this feature.

Use the **Adjust to:** option to reduce or enlarge the output from 10 to 400 percent of the original size.

Use the **Fit to:** option to specify exactly how many pages wide or tall you want the final printout to be.

Paper size

Provides various paper sizes to choose from. Available sizes will vary from printer to printer.

Print quality

Allows you to specify the resolution (dots per inch) for printing. The higher the number, the better the quality - but it also takes longer.

First page number

Leave this option at **Auto** to start page numbering at the next sequential number or enter a number with which the first page should begin.

CUSTOMIZING MARGINS

To change the margins click on the **Margins** tab, as shown below:

The screenshot shows the 'Margins' tab in the Excel ribbon. It contains several input fields for setting margins: 'Top' (1), 'Bottom' (1), 'Left' (0.75), 'Right' (0.75), 'Header' (0.5), and 'Footer' (0.5). Each field has a small up/down arrow. In the center is a preview of a worksheet grid. At the bottom, there is a 'Center on page' section with two checkboxes: 'Horizontally' and 'Vertically', both of which are currently unchecked.

Top/Bottom

Use this section to change the top and bottom distance between the edge of the paper and the printout.

Left/Right

Use this section to change the left and right distances between the edge of the paper and the printout.

Header/Footer

Use this section to change the top and bottom distances between the edge of the paper and the header and/or footer. Make sure that this value is smaller than the **Top/Bottom** margins or the header will overlap the data.

Center on page


This option is used to balance a printout by centering pages **Horizontally** (between the left and right margins) and/or **Vertically** (between the top and bottom margins).


CUSTOMIZING HEADERS/FOOTERS

To customize or remove the headers/footers, click on the tab labeled **Header/Footer**, as shown below:

The screenshot shows a dialog box with four tabs: "Page", "Margins", "Header/Footer", and "Sheet". The "Header/Footer" tab is selected. Inside the dialog, there is a preview area at the top showing a sample of the current header. Below this, there is a section labeled "Header:" with a pull-down menu currently set to "(none)". To the right of this menu are two buttons: "Custom Header..." and "Custom Footer...". Below the header section is a section labeled "Footer:" with another pull-down menu also set to "(none)". At the bottom of the dialog, there are four checkboxes: "Different odd and even pages" (unchecked), "Different first page" (unchecked), "Scale with document" (checked), and "Align with page margins" (checked).

The top section is a sample of what the current header will display.

In the section called **Header** is a pull-down list of predefined headers. Simply click on the down arrow  and choose from the list of available headers.

In the section called **Footer** is a pull-down list of predefined footers. Simply click on the down arrow  and choose from the list of available footers.

Notice the checkboxes along the bottom of this box which allow you to choose different odd and even page headers/footers, a different first page header/footer, scale the header/footer to match the document, and align the header/footer with the page margins.

To customize the header/footer click on one of these buttons:



The custom header and footer dialog boxes look the same:

To format text: select the text, then choose the Format Text button.
 To insert a page number, date, time, file path, filename, or tab name: position the insertion point in the edit box, then choose the appropriate button.
 To insert picture: press the Insert Picture button. To format your picture, place the cursor in the edit box and press the Format Picture button.

Left section: Center section: Right section:

Use the **Left**, **Center** and **Right** sections of the box to enter text. The section you type it in will determine where the header/footer text will be placed on the printed page.

Use the following buttons to add special options:



- Allows you to customize the font.
- Inserts the current **Page Number**.
- Adds the **Total number of pages** in the printout.
- Adds the **Date** to the header/footer.
- Adds the **Time** to the header/footer.
- Adds the **Path & Filename** to the header/footer.
- Adds the **Filename** to the header/footer.
- Adds the **Tab Name** to the header/footer.
- Allows you to insert a **Picture** in the header/footer.
- If you have a picture, use this to **Format the Picture**.

SHEET PRINTOUT OPTIONS

Click on the **Sheet** tab to customize the print features that affect the overall sheet, as shown below:

Page Margins Header/Footer **Sheet**

Print area:

Print titles

Rows to repeat at top:

Columns to repeat at left:

Print

☐ Gridlines

☐ Black and white

☐ Draft quality

☐ Row and column headings

Comments:

Cell errors as:

Page order

☒ Down, then over

☐ Over, then down

Print area Use this section to specify the block to be printed. If you selected a block before you entered this box, the block will already be displayed. If not, you may enter the range as **A1:B15** to specify that the block from A1 to B15 should be printed. You can enter more than one range if you separate the ranges with a comma - as in **A1:B15,D20:F40**.

Print titles This section allows you to specify rows to be printed along the top or the columns to be printed along the left of each page. To specify a range, click in the row or column section and then type the block.



Click on this button (to the right of these two sections) to return to the worksheet to select the block. When done, reactivate the Page Setup dialog box.

Print

You can choose to either display **Gridlines** or suppress the sheet gridlines from printing.

Black and white is used to print in black and white for faster printing.

Checking the **Draft quality** option speeds up the printout by printing less graphics and suppresses the gridlines.

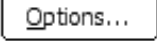
Check the **Row and column headings** box to print the row numbers and column letters around the border of the printout.


Depending on your preference, you can choose to print **Comments** on a separate page at the end of your document or as they are displayed in the worksheet.

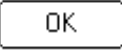
You can also choose how **Cell errors** will be printed (blank, as they appear in the cell or with the #N/A indicator).

Page order

Use this section to specify the order pages are to be printed. You can choose to print **Down, then Across** or **Across, then Down**.

You should notice the  button to the right side of each of the tabbed boxes. This button is used to access the "Printer Properties" dialog box.

You should also notice the  button within each of the tabbed dialog boxes. If you want to see how the worksheet will print based on the current settings, click on this button.

Once you have made your selections from the various tabs, click on the  button.

PRINTING YOUR WORKSHEET

USAGE:




After you have saved your workbook, you will want to print it. If you do not specify otherwise, Excel assumes you want to print the entire worksheet. It is possible, though, to specify a print range.

Click on the **File Ribbon**.


Select **Print** from list of options on the left.


Select your printer from the list and set any special printer options using the **Settings** section.


Settings


 **Print Active Sheets**
Only print the active sheets


Pages: to



 **Print One Sided**
Only print on one side of the page

 **Collated**
1,2,3 1,2,3 1,2,3

 **Portrait Orientation**


 **Letter**
8.5" x 11"

 **Normal Margins**
Left: 0.7" Right: 0.7"

 **No Scaling**
 Print sheets at their actual size

[Page Setup](#)


You can also change your **Printer** and **Properties** in the **Printer** section.


Print

Print


Copies: 1

Printer ⓘ

 Dell 5330dn Mono Laser Printer
Ready

[Printer Properties](#)

Printer

Name:  HP LaserJet ▼ [Properties...](#)

Status: Idle [Find Printer...](#)

Type: HP LaserJet

Where: \\Ez-ref\hp laser

Comment: ☐ Print to file

Print range

☒ All

☐ Page(s) From: To:

Print what



☐ Selection ☐ Entire workbook

☒ Active sheet(s) ☐ Table

☐ Ignore print areas

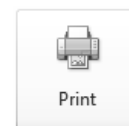
Copies

Number of copies: 1

  ☒ Collate

[Preview](#) [OK](#) [Cancel](#)

Once you are ready to print Click on the
Your worksheet will now print.



Print button.

CLOSING A DOCUMENT

USAGE:

Although you can have several windows (workbooks) open at the same time, it is usually a good idea to close a file once you have saved and printed it if you no longer need to continue editing.



Click on the close button in the upper right corner of the window to close the current workbook.

Notice there are two close buttons on the screen. The top one closes the application while the lower close button is used to close the current file.



You can also access the **File Ribbon** and select  Close **Close**.

**NOTE:**

If you have made changes to the workbook and have not saved those changes, Excel will ask whether you want to save the changes before closing the file.

CREATING A NEW WORKBOOK

USAGE:

When you first run Excel you are automatically taken into a blank, untitled workbook where you may begin entering data. If, however, you are in the midst of working with one file and then decide to create another workbook, you will need to instruct Excel as to what type of new document you want to create.

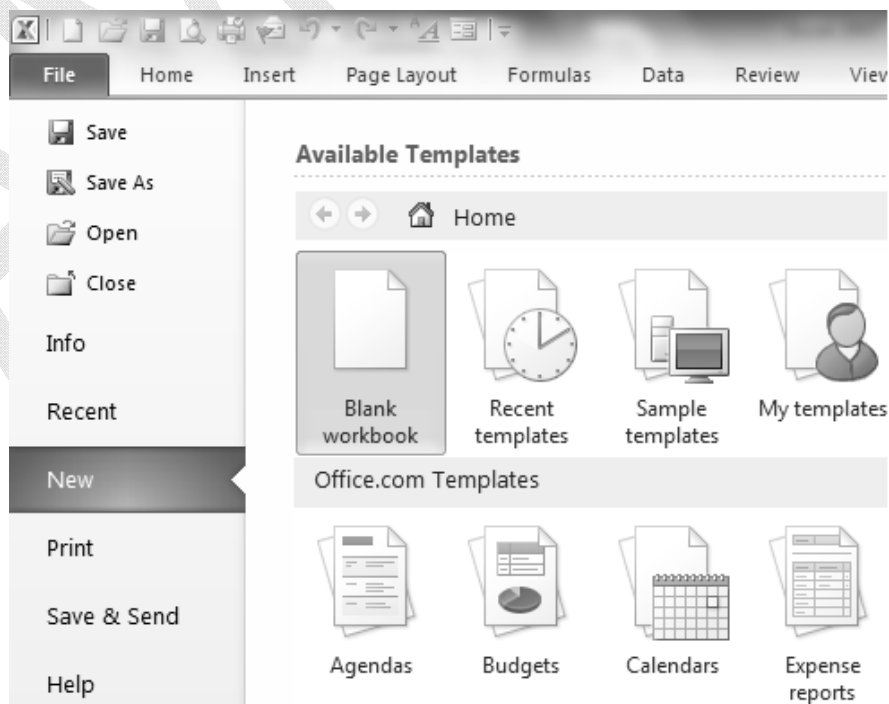
You can either create another blank workbook or base the new file on one of Excel's built-in templates or from one of your own existing templates. A template is used to determine the basic structure of the workbook and can contain predefined settings, such as formulas, formatting, and macros.



Click on the **File Ribbon**.

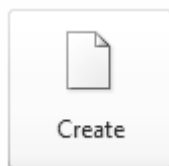
Select **New** from the Office menu.

The following window will be displayed:



The window contains a list of templates that you can choose from to create your workbook including an option to create a blank workbook.

Once you decide which template you would like to use, highlight its name and then choose.



The new workbook will be created - based on the template you have selected.



NOTE: To quickly create a new blank workbook without first having to access the Office menu, press **CTRL+N**.

SWITCHING BETWEEN MULTIPLE WORKBOOKS

When working with two or more open documents, you can switch between them by accessing the **View Ribbon** and then clicking on



the **Switch Windows** button or you can quickly switch between open documents using the Windows taskbar (located along the bottom of your screen), as shown below:



PRACTICE EXERCISE

- Instructions:**
- ❶ Create a new file based on the following information.
 - ❷ Create a formula in cell E2 to calculate the quarterly totals.
 - ❸ Copy the formula down to the other cells in column E.
 - ❹ When you are done, save (name it **REGIONS**) and print the file before closing it.

REGION	OCT	NOV	DEC	QTR. TOTAL
Pacific	2.3	1.8	1.2	5.3
Northwest	1.6	1.1	.9	3.6
Northeast	2.5	2.2	2	6.7
Gulf	3.1	2.9	2.5	8.5
Southeast	2.6	2.1	1.8	6.5



NOTES:

Lined area for taking notes, consisting of 20 horizontal lines.