Getting Started with Excel

Objectives

- Understand the use of spreadsheets and Excel
- Learn the parts of the Excel window
- Scroll through a worksheet and navigate between worksheets
- Create and save a workbook file
- Enter text, numbers, and dates into a worksheet
- Resize, insert, and remove columns and rows

Objectives

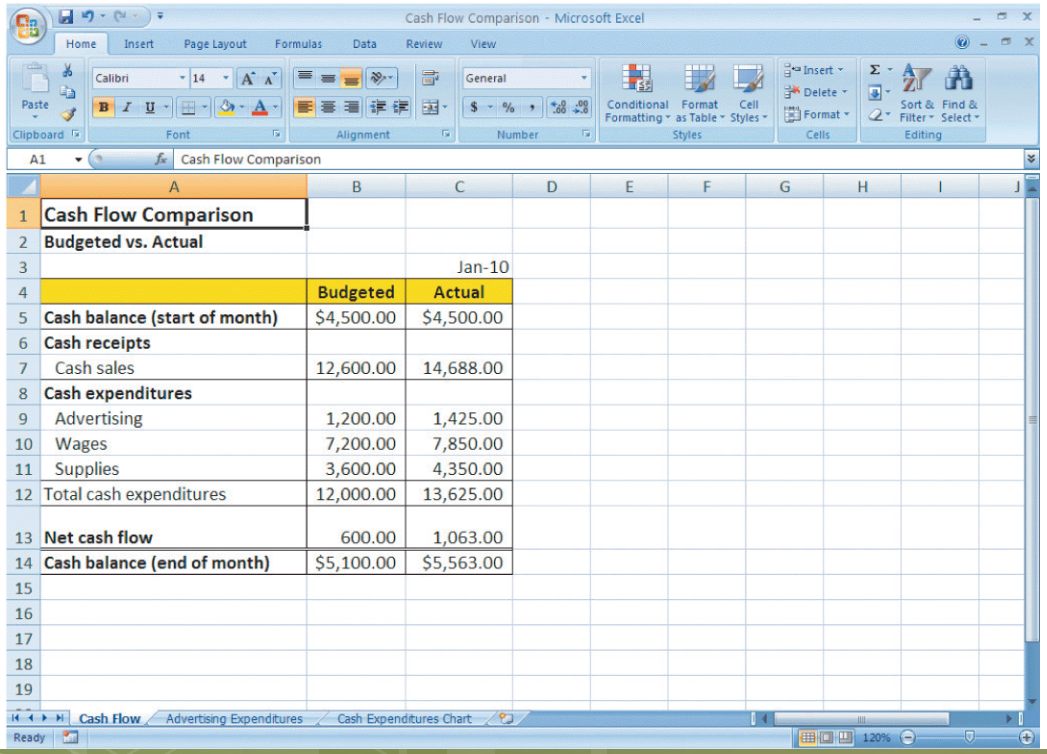
- Select and move cell ranges
- Insert formulas and functions
- Insert, delete, move, and rename worksheets
- Work with editing tools
- Excel Shortcuts and formulas

Introducing Excel

- **Microsoft Office Excel 2007** (or **Excel**) is a computer program used to enter, analyze, and present quantitative data
- A **spreadsheet** is a collection of text and numbers laid out in a rectangular grid.
  - Often used in business for budgeting, inventory management, and decision making
- **What-if analysis** lets you change one or more values in a spreadsheet and then assess the effect those changes have on the calculated values

Introducing Excel

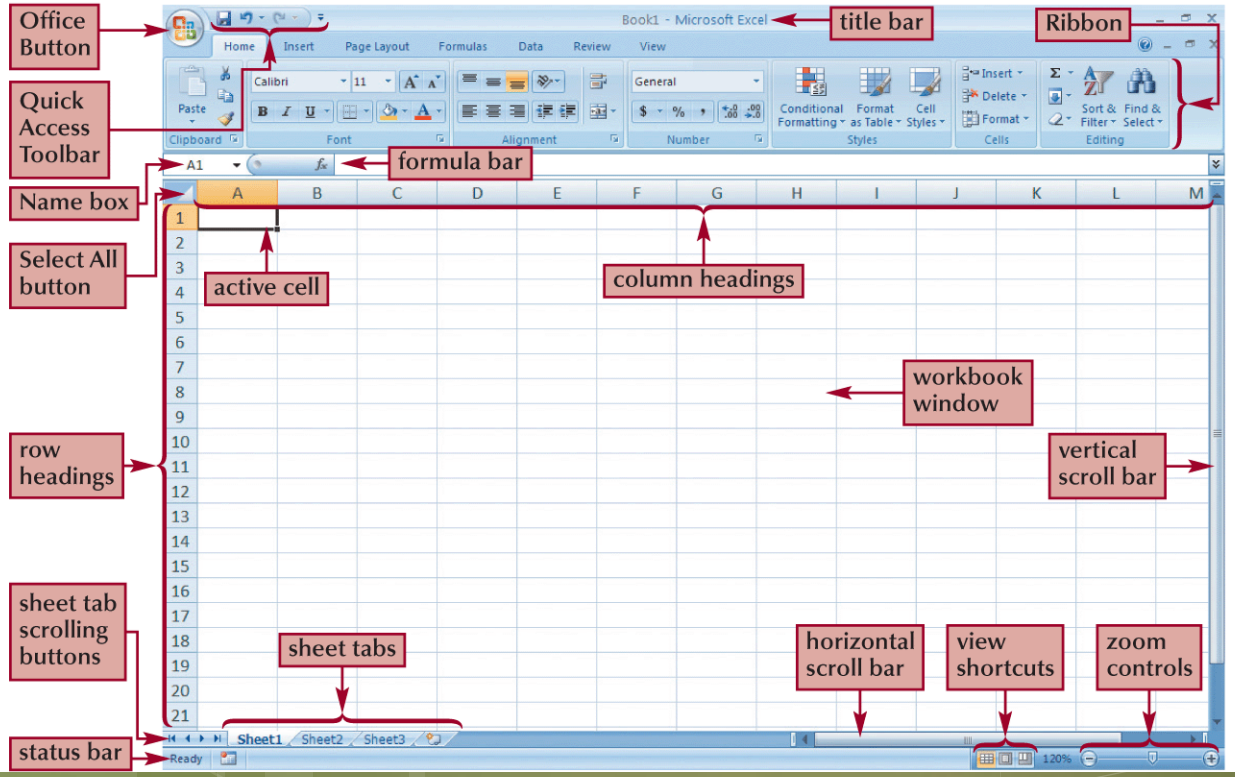
Spreadsheet data in Excel **Figure 1-2**



	A	B	C
1	**Cash Flow Comparison**		
2	**Budgeted vs. Actual**		
3			Jan-10
4		**Budgeted**	**Actual**
5	**Cash balance (start of month)**	$4,500.00	$4,500.00
6	**Cash receipts**		
7	Cash sales	12,600.00	14,688.00
8	**Cash expenditures**		
9	Advertising	1,200.00	1,425.00
10	Wages	7,200.00	7,850.00
11	Supplies	3,600.00	4,350.00
12	Total cash expenditures	12,000.00	13,625.00
13	**Net cash flow**	600.00	1,063.00
14	**Cash balance (end of month)**	$5,100.00	$5,563.00

Exploring Excel

Figure 1-3 Parts of the Excel window



Exploring Excel

Description of the Excel window elements Figure 1-4

Feature	Description
Office Button	A button that provides access to workbook-level features and program settings
Quick Access Toolbar	A collection of buttons that provide one-click access to commonly used commands, such as Save, Undo, and Repeat
Title bar	A bar that displays the name of the active workbook and the Excel program name
Ribbon	The main set of commands organized by task into tabs and groups
Column headings	The letters that appear along the top of the worksheet window to identify the different columns in the worksheet
Workbook window	A window that displays an Excel workbook
Vertical scroll bar	A scroll bar used to scroll vertically through the workbook window
Horizontal scroll bar	A scroll bar used to scroll horizontally through the workbook window
Zoom controls	Controls for magnifying and shrinking the content displayed in the active workbook window
View shortcuts	Buttons used to change how the worksheet content is displayed—Normal, Page Layout, or Page Break Preview view
Sheet tabs	Tabs that display the names of the worksheets in the workbook
Sheet tab scrolling buttons	Buttons to scroll the list of sheet tabs in the workbook
Row headings	The numbers that appear along the left of the worksheet window to identify the different rows in the worksheet
Select All button	A button used to select all of the cells in the active worksheet
Active cell	The cell currently selected in the active worksheet
Name box	A box that displays the cell reference of the active cell
Formula bar	A bar that displays the value or formula entered in the active cell

Navigating a Worksheet

- Excel provides several ways to navigate a worksheet

Figure 1-5 Excel navigation keys

Press	To move the active cell
↑, ↓, ←, →	Up, down, left, or right one cell
Home	To column A of the current row
Ctrl+Home	To cell A1
Ctrl+End	To the last cell in the worksheet that contains data
Enter	Down one row or to the start of the next row of data
Shift+Enter	Up one row
Tab	One column to the right
Shift+Tab	One column to the left
Page Up, Page Down	Up or down one screen
Ctrl+Page Up, Ctrl+Page Down	To the previous or next sheet in the workbook

Planning a Workbook

- Before you begin to enter data into a workbook, you should develop a plan
  - **Planning analysis sheet**

Planning analysis sheet Figure 1-6

Planning Analysis Sheet
Author: Amanda Dunn
Date: 4/1/2010

What problems do I want to solve?
- I need to have contact information for each RipCity Digital customer.
- I need to track how many DVDs I create for my customers.
- I need to record how much I charge my customers for my service.
- I need to determine how much revenue RipCity Digital is generating.

What data do I need?
- Each customer's name and contact information
- The date each customer order was placed
- The number of DVDs created for each customer
- The cost of creating each DVD

What calculations do I need to enter?
- The total charge for each order
- The total number of DVDs I create for all orders
- The total revenue generated from all orders

What form should my solution take?
- The customer orders should be placed in a grid with each row containing data on a different customer.
- Information about each customer should be placed in separate columns.
- The last column should contain the total charge for each customer.
- The last row should contain the total number of DVDs created and the total revenue from all customer orders.

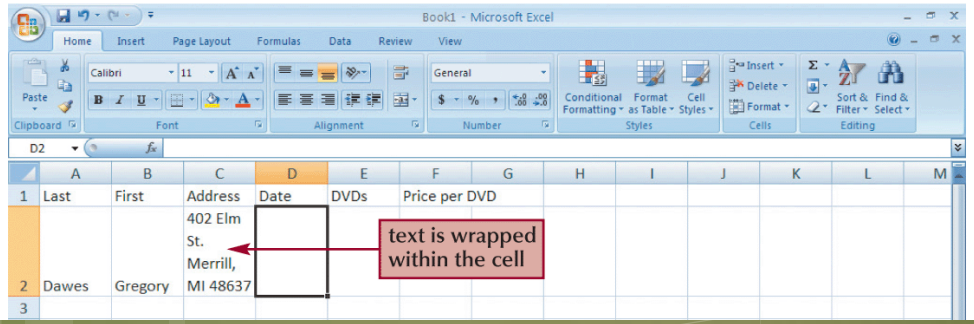
Entering Text, Numbers, and Dates in Cells

- The **formula bar** displays the content of the active cell
- **Text data** is a combination of letters, numbers, and some symbols
- **Number data** is any numerical value that can be used in a mathematical calculation
- **Date** and **time data** are commonly recognized formats for date and time values

Entering Multiple Lines of Text Within a Cell

- Click the cell in which you want to enter the text
- Type the first line of text
- For each additional line of text, press the Alt+Enter keys (that is, hold down the Alt key as you press the Enter key), and then type the text

Figure 1-10 Two lines of text entered within a cell



Changing Column Width and Row Height

- A **pixel** is a single point on a computer monitor or printout
- The default column width is 8.38 standard-sized characters
- Row heights are expressed in points or pixels, where a **point** is *1/72* of an inch
- **Autofitting** eliminates any empty space by matching the column to the width of its longest cell entry or the row to the height of its tallest cell entry

Changing the Column Width and Row Height

- Drag the right border of the column heading left to decrease the column width or right to increase the column width
- Drag the bottom border of the row heading up to decrease the row height or down to increase the row height

or

- Double-click the right border of a column heading or the bottom border of a row heading to AutoFit the column or row to the cell contents (or select one or more column or rows, click the Home tab on the Ribbon, click the Format button in the Cells group, and then click AutoFit Column Width or AutoFit Row Height)

or

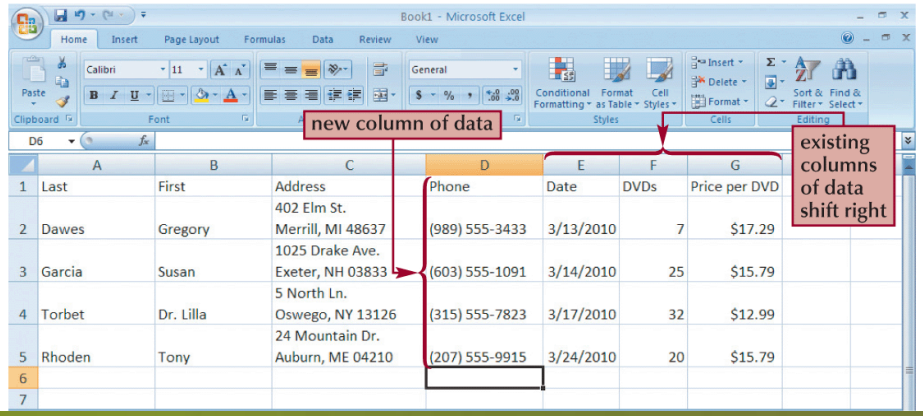
- Select one or more columns or rows
- Click the Home tab on the Ribbon, click the Format button in the Cells group, and then click Column Width or Row Height
- Enter the column width or row height you want, and then click the OK button

Inserting a Column or Row

- Select the column(s) or row(s) where you want to insert the new column(s) or row(s); Excel will insert the same number of columns or rows as you select
- In the Cells group on the Home tab, click the Insert button (or right-click a column or row heading or selected column and row headings, and then click Insert on the shortcut menu)

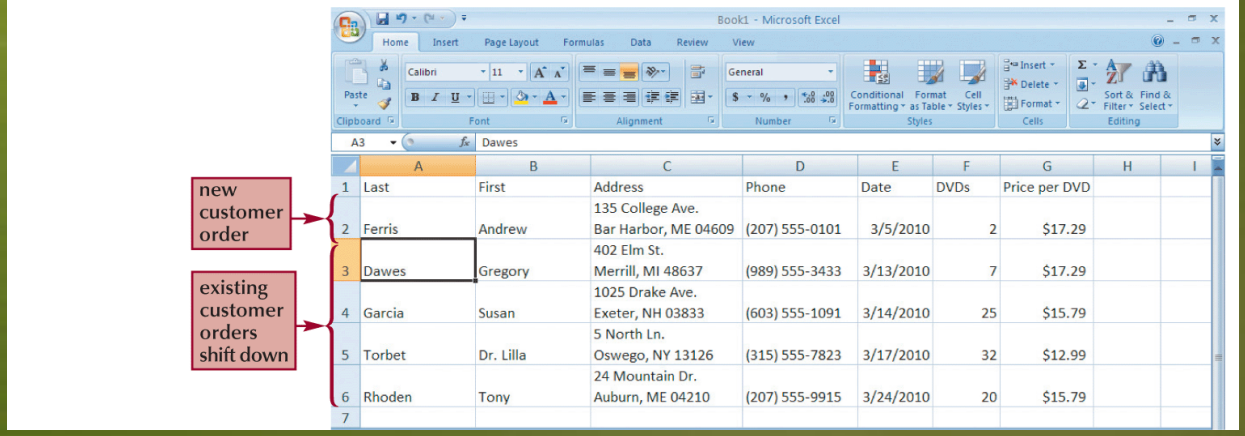
Inserting a Column or Row

New column inserted in the worksheet **Figure 1-15**



	A	B	C	D	E	F	G
1	Last	First	Address	Phone	Date	DVDs	Price per DVD
2	Dawes	Gregory	402 Elm St. Merrill, MI 48637	(989) 555-3433	3/13/2010	7	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79
6							
7							

Figure 1-16 New row inserted in the worksheet



	A	B	C	D	E	F	G	H	I
1	Last	First	Address	Phone	Date	DVDs	Price per DVD		
2	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	$17.29		
3	Dawes	Gregory	402 Elm St. Merrill, MI 48637	(989) 555-3433	3/13/2010	7	$17.29		
4	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79		
5	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99		
6	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79		
7									

Deleting and Clearing a Row or Column

- **Clearing** data from a worksheet removes the data but leaves the blank cells
- **Deleting** data from the worksheet removes both the data and the cells

Working with Cells and Cell Ranges

- A group of cells is called a **cell range** or **range**
- An **adjacent range** is a single rectangular block of cells
- A **nonadjacent range** consists of two or more distinct adjacent ranges
- A **range reference** indicates the location and size of a cell range

Selecting Cell Ranges

To select an adjacent range:

- Click the cell in the upper-left corner of the adjacent range, drag the pointer to the cell in the lower-right corner of the adjacent range, and then release the mouse button

or

- Click the cell in the upper-left corner of the adjacent range, press the Shift key as you click the cell in the lower-right corner of the adjacent range, and then release the Shift key

To select a nonadjacent range of cells:

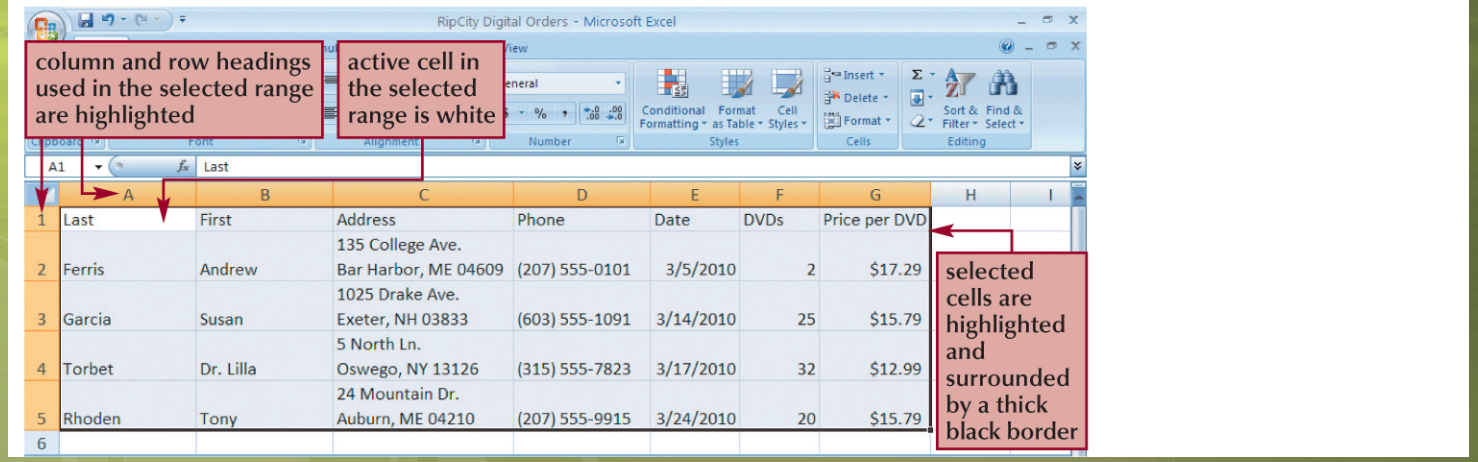
- Select a cell or an adjacent range, press the Ctrl key as you select each additional cell or adjacent range, and then release the Ctrl key

To select all the cells in a worksheet:

- Click the Select All button located at the intersection of the row and column headings (or press the Ctrl+A keys)

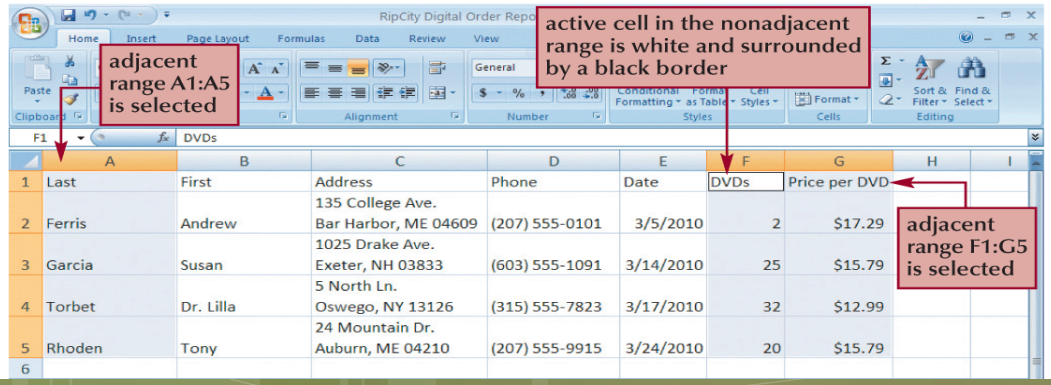
Selecting Cell Ranges

Adjacent range A1:G5 selected — Figure 1-17



	A	B	C	D	E	F	G
1	Last	First	Address	Phone	Date	DVDs	Price per DVD
2	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79
6							

Nonadjacent range A1:A5;F1:G5 selected — Figure 1-18



	A	B	C	D	E	F	G
1	Last	First	Address	Phone	Date	DVDs	Price per DVD
2	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79
6							

Moving or Copying a Cell or Range

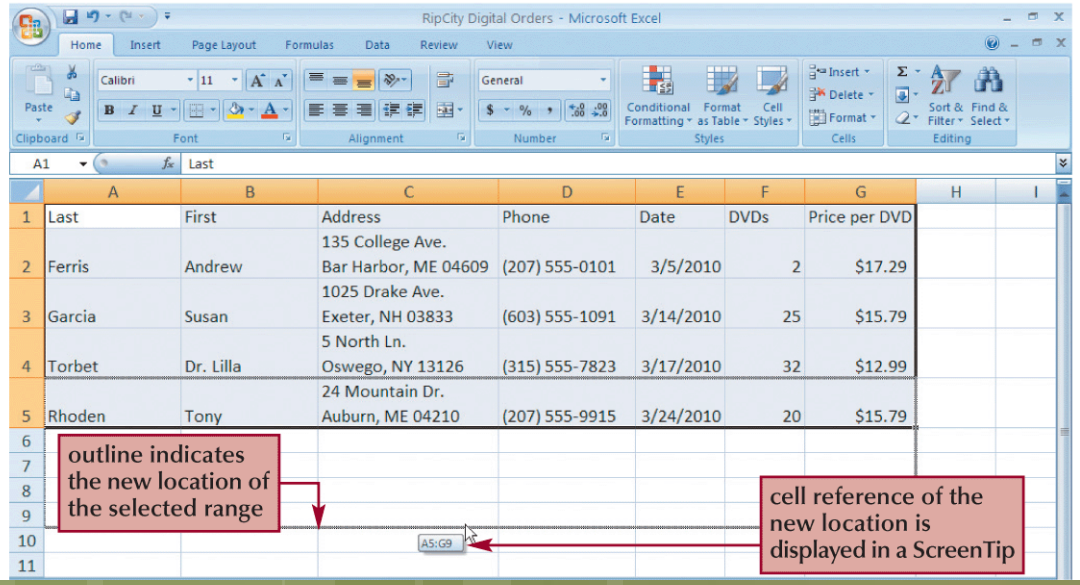
- Select the cell or range you want to move or copy
- Move the mouse pointer over the border of the selection until the pointer changes shape
- To move the range, click the border and drag the selection to a new location (or, to copy the range, hold down the Ctrl key and drag the selection to a new location)

or

- Select the cell or range you want to move or copy
- In the Clipboard group on the Home tab, click the Cut button or the Copy button (or right-click the selection, and then click Cut or Copy on the shortcut menu)
- Select the cell or upper-left cell of the range where you want to move or copy the content
- In the Clipboard group, click the Paste button (or right-click the selection, and then click Paste on the shortcut menu)

Moving or Copying a Cell or Range

Selected range being moved **Figure 1-19**



	A	B	C	D	E	F	G
1	Last	First	Address	Phone	Date	DVDs	Price per DVD
2	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79

Inserting and Deleting a Cell Range

Figure 1-21 Cells inserted within a cell range

new cells are inserted within the range, shifting the existing cells to the right

new cells are inserted within the range, shifting the existing cells down

Inserting or Deleting a Cell Range

- Select a range that matches the range you want to insert or delete
- In the Cells group on the Home tab, click the Insert button or the Delete button

or

- Select the range that matches the range you want to insert or delete
- In the Cells group, click the Insert button arrow and then click the Insert Cells button or click the Delete button arrow and then click the Delete Cells command (or right-click the selected range, and then click Insert or Delete on the shortcut menu)
- Click the option button for the direction in which you want to shift the cells, columns, or rows
- Click the OK button

Inserting and Deleting a Worksheet

- To insert a new worksheet into the workbook, right-click a sheet tab, click Insert on the shortcut menu, select a sheet type, and then click the OK button
- You can delete a worksheet from a workbook in two ways:
  - You can right-click the sheet tab of the worksheet you want to delete, and then click Delete on the shortcut menu
  - You can also click the Delete button arrow in the Cells group on the Home tab, and then click Delete Sheet

Renaming a Worksheet

- To rename a worksheet, you double-click the sheet tab to select the sheet name, type a new name for the sheet, and then press the Enter key
- Sheet names cannot exceed 31 characters in length, including blank spaces
- The width of the sheet tab adjusts to the length of the name you enter

Moving and Copying a Worksheet

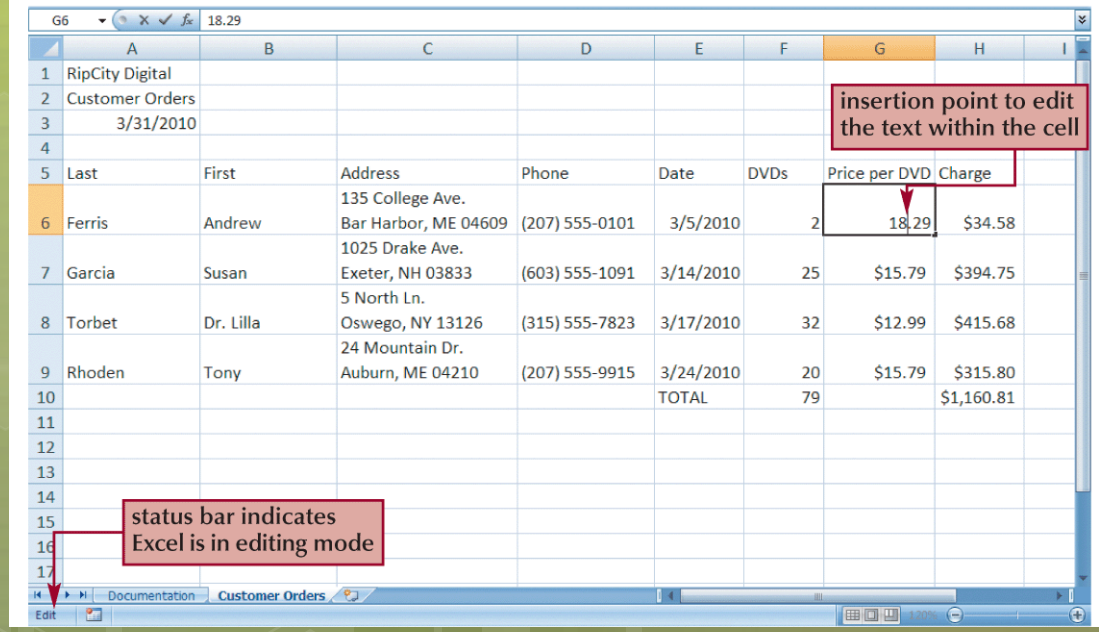
- You can change the placement of the worksheets in a workbook
- To reposition a worksheet, you click and drag the sheet tab to a new location relative to other worksheets in the workbook
- To copy a worksheet, just press the Ctrl key as you drag and drop the sheet tab

Editing Your Work

- To edit the cell contents, you can work in **editing mode**
- You can enter editing mode in several ways:
  - double-clicking the cell
  - selecting the cell and pressing the F2 key
  - selecting the cell and clicking anywhere within the formula bar

Editing Your Work

Working in editing mode Figure 1-28

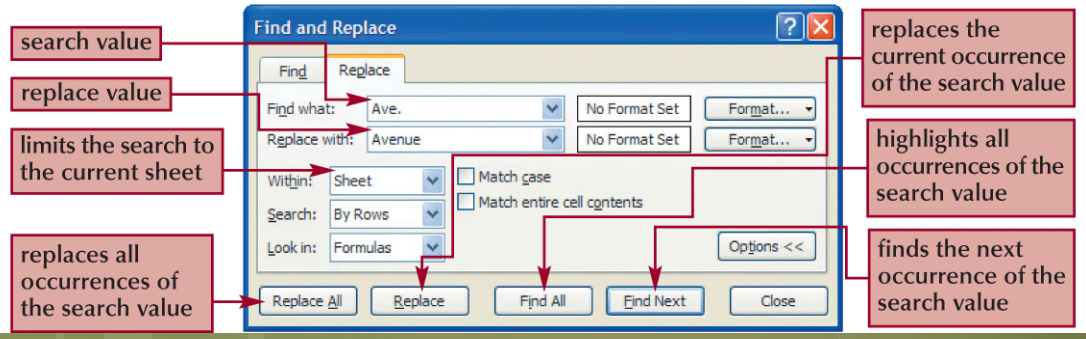


	A	B	C	D	E	F	G	H
1	RipCity Digital							
2	Customer Orders							
3	3/31/2010							
4								
5	Last	First	Address	Phone	Date	DVDs	Price per DVD	Charge
6	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	18.29	$34.58
7	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79	$394.75
8	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99	$415.68
9	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79	$315.80
10					TOTAL	79		$1,160.81
11								
12								
13								
14								
15								
16								
17								

Using Find and Replace

- You can use the **Find** command to locate numbers and text in the workbook and the **Replace** command to overwrite them

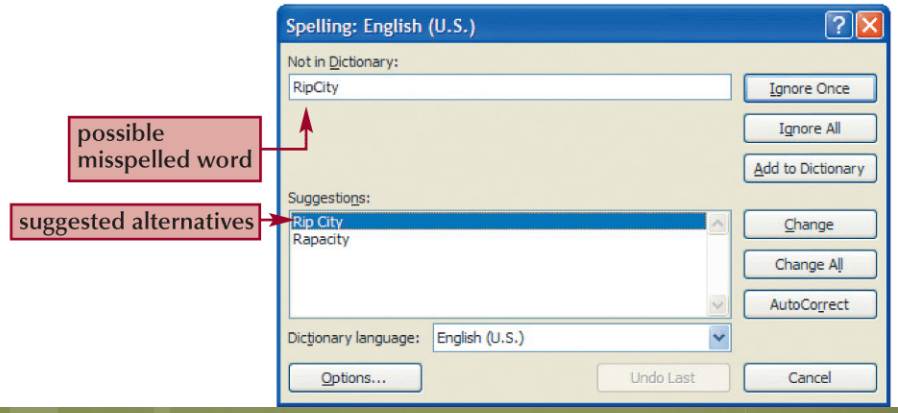
Figure 1-29 Find and Replace dialog box



Using the Spelling Checker

- The **spelling checker** verifies the words in the active worksheet against the program's dictionary

Figure 1-31 Spelling dialog box

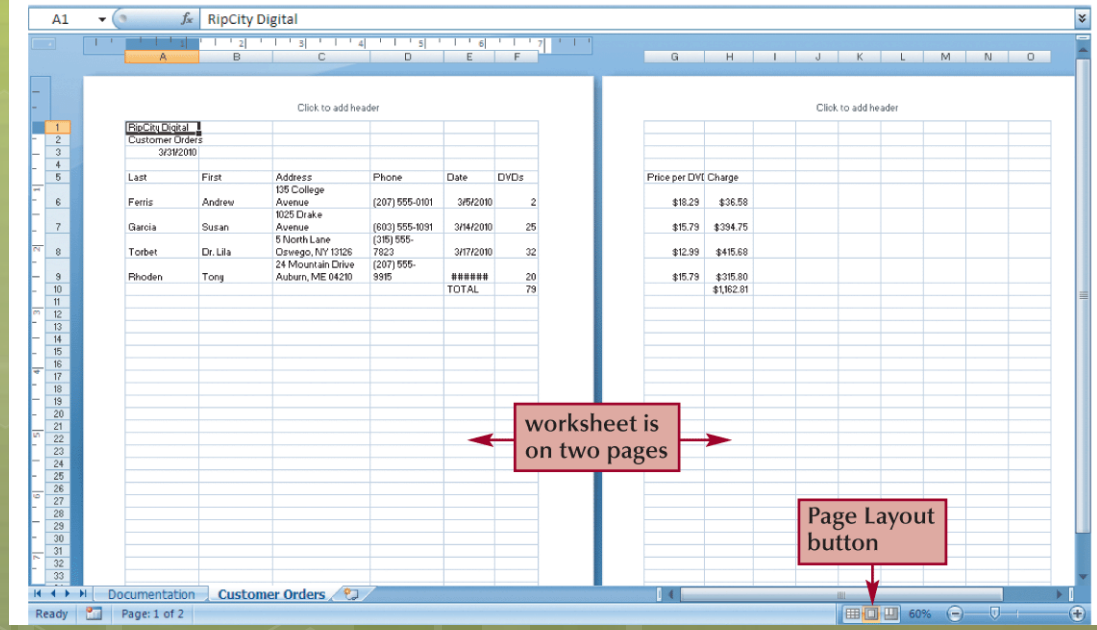


Changing Worksheet Views

- You can view a worksheet in three ways:
  - **Normal view** simply shows the contents of the worksheet
  - **Page Layout view** shows how the worksheet will appear on the page or pages sent to the printer
  - **Page Break Preview** displays the location of the different page breaks within the worksheet

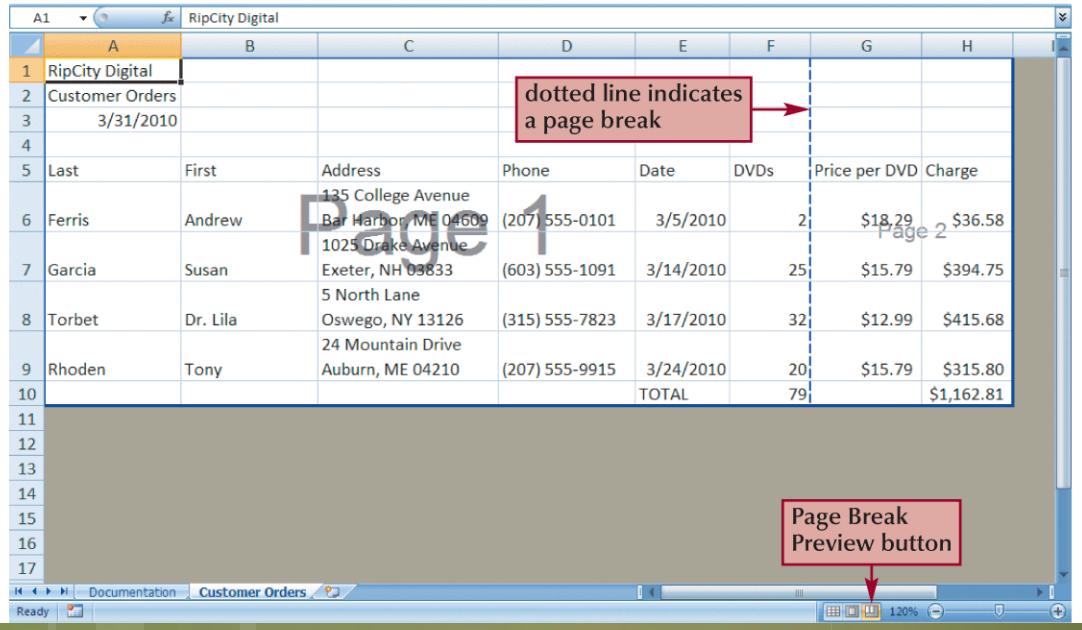
Changing Worksheet Views

Worksheet displayed in Page Layout view — Figure 1-32



Changing Worksheet Views

Figure 1-33 Worksheet displayed in Page Break Preview



	A	B	C	D	E	F	G	H
1	RipCity Digital							
2	Customer Orders							
3	3/31/2010							
4								
5	Last	First	Address	Phone	Date	DVDs	Price per DVD	Charge
6	Ferris	Andrew	135 College Avenue Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	$18.29	$36.58
7	Garcia	Susan	1025 Drake Avenue Exeter, NH 03833	(603) 555-1091	3/14/2010	25	$15.79	$394.75
8	Torbet	Dr. Lila	5 North Lane Oswego, NY 13126	(315) 555-7823	3/17/2010	32	$12.99	$415.68
9	Rhoden	Tony	24 Mountain Drive Auburn, ME 04210	(207) 555-9915	3/24/2010	20	$15.79	$315.80
10					TOTAL	79		$1,162.81
11								
12								
13								
14								
15								
16								
17								

Working with Portrait and Landscape Orientation

- In **portrait orientation**, the page is taller than it is wide
- In **landscape orientation**, the page is wider than it is tall
- By default, Excel displays pages in portrait orientation

Working with Portrait and Landscape Orientation

- To change the page orientation:
  - Click the **Page Layout** tab on the Ribbon
  - In the Page Setup group, click the **Orientation** button, and then click **Landscape**
  - The page orientation switches to landscape

Printing the Workbook

- You can print the contents of your workbook by using the Print command on the Office Button
- The Print command provides three options:
  - You can open the Print dialog box from which you can specify the printer settings, including which printer to use, which worksheets to include in the printout, and the number of copies to print
  - You can perform a Quick Print using the print options currently set in the Print dialog box
  - Finally, you can preview the workbook before you send it to the printer

Excel Shortcuts

Excel Keyboard Shortcuts

When you are first getting used to Excel you will probably be focused on just getting your task done rather than learning how to work more efficiently. However, when you are ready to learn about the Excel keyboard shortcuts this lesson will teach you the most important and useful Excel shortcuts currently available.

- The benefits of using a keyboard shortcut are twofold:
- It is quicker to keep your hand on the keyboard then shift from keyboard to mouse to keyboard
- You will experience less stress on your muscles if you shift your hands less
- We have divided the keyboard shortcuts into related areas. This way you can focus on learning a group of shortcuts at a time, rather than all at once!
- **Shortcut Help**: Combination keyboard shortcuts, those that have a plus (i.e. Ctrl + S), require that you hold the first key (Control) then press the second key (S) while still holding down the first key.

Excel Shortcuts: Files

This small group of shortcuts is useful for opening, closing and saving your Excel workbooks.

- **Ctrl+S**: Save your Excel workbook
- **Ctrl+O**: Open an existing Excel workbook
- **Ctrl+N**: Create a new Excel workbook

Excel Shortcuts: Editing

These are common shortcuts you will use to edit your Excel workbook. Our favorite shortcut in this list is, quite obviously, Ctrl+Z.

- **Ctrl+C**: Copy the current selection to the clipboard. After you copy something, you can paste it with the paste shortcut.
- **Ctrl+V**: Paste the current item from the clipboard.
- **Ctrl+X**: Cut the current selection and place it on the clipboard, which can be pasted. The difference between cut and copy is that cut will delete your selection, while copy will not.
- **Ctrl+Z**: Undo your last change. This is can be repeated to remove again and again to undo many changes.
- **Ctrl+Y**: Redo your last Undo. This only is available if you have just issued an Undo command.
- **Backspace**: Deletes the current cell and enters edit mode for that cell. This will only delete one cell and not a selection.
- **Delete**: Deletes the current selection. Use the delete key when you want to delete more than one cell at a time.

Excel Shortcuts: Getting Around

These shortcuts will help you move around your Excel workbooks and worksheets with great ease!

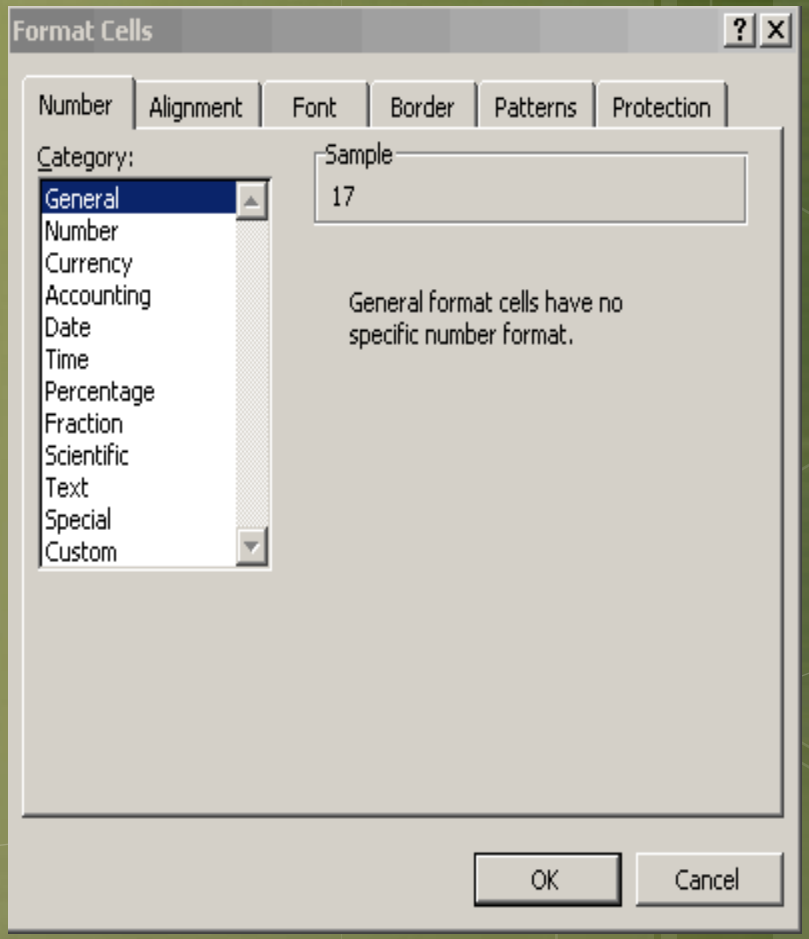
- **Page Up**: Move one page up in your worksheet
- **Page Down**: Move one page down in your worksheet. **Note:** The number of rows moved in both page up and page down depend on how many rows are currently displayed. The more rows you have displayed the greater amount the row jump will be when you do a page up/down.
- **Ctrl+Home**: Move to the beginning of your worksheet
- **Ctrl+End**: Move to the end of your worksheet
- **Tab**: Move right one column
- **Shift+Tab**: Move left one column
- **Ctrl+Page Up**: Go back one worksheet
- **Ctrl+Page Down**: Go forward one worksheet. **Note:** If you are not using multiple worksheets in your workbook you will probably not use this shortcut!

Excel Shortcuts: Formatting

These shortcuts will help you quickly format your data.

- **Ctrl+B:** Toggles bold on and off for your selection
- **Ctrl+I:** Toggles italic on and off for your selection
- **Ctrl+U:** Toggles underline on and off for your selection

- **Ctrl+1:** Opens up the Format Cell popup



Excel Shortcuts: Menu

These shortcuts allow you to active the various options on the menu bar without have to mouse-click them.

Note: These shortcuts use Alt as their combination key.

- **Alt+F:** Accesses the File menu
- **Alt+E:** Accesses the Edit menu
- **Alt+V:** Accesses the View menu
- **Alt+I:** Accesses the Insert menu
- **Alt+T:** Accesses the Tools menu
- **Alt+D:** Accesses the Data menu
- **Alt+W:** Accesses the Window menu
- **Alt+H:** Accesses the Help menu

After you have used one of these shortcuts you can use the arrow keys to navigate the menu choices and use the Enter key to select a choice.

Excel Shortcuts: Selecting

These shortcuts help you to quickly select items in your Excel file in various ways.

- **Shift+Spacebar**: Select the current Row
- **Ctrl+Spacebar**: Select the current column
- **Ctrl+A**: Select All, will select everything on the current worksheet. This is most often used in conjunction with the copy shortcut.

Excel Shortcuts: Miscellaneous

And the two black sheep of the shortcut essentials:

- **F1:** Opens up the quick help feature
- **Ctrl+P:** Print your worksheet

Excel 2007 Formula

Excel 2007 Formula: A foundation to start writing a formula!

- A formula is an equation that performs operations on worksheet data. You can use an *Excel 2007 formula* to perform mathematical operations, such as addition and multiplication, or they can compare worksheet values, join text, averaging a student's test results, etc.

- Formulas can refer to other cells on the same worksheet, cells on other sheets in the same workbook, or cells on sheets in other workbooks. In addition, if you change the data in your spreadsheet, Excel will automatically recalculate the answer without you having to re-enter the formula.

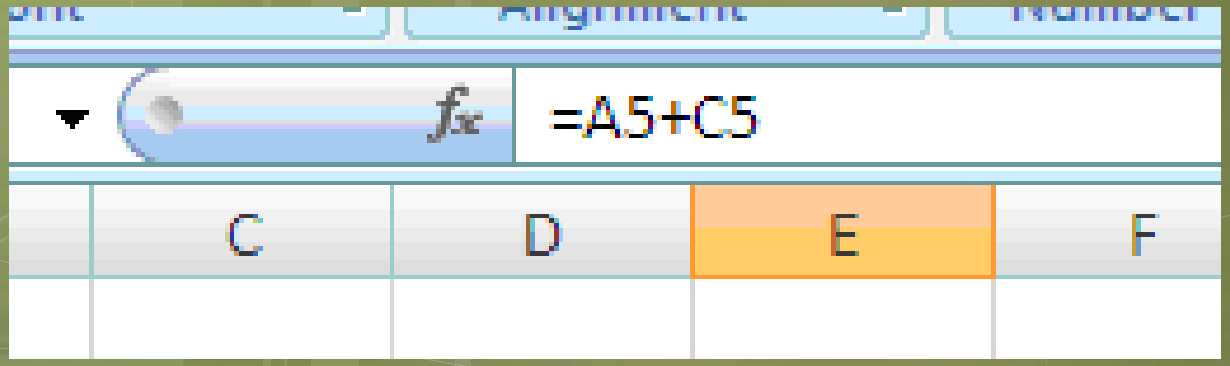
- A basic formula format will start with an equals sign (=) followed by one or more operands, separated by one or more operators. **Operands** can be values, text, cell references, ranges, defined names, or function names. **Operators** are symbols used to represent the various arithmetic and comparison operations you can perform on the operands.

In Microsoft Excel 2007, operators are executed in this order:

Precedence	Name	Operator
1	Parenthesis	( )
2	Percent	%
3	Exponentiation	^
4	Multiplication	*
4	Division	/
5	Addition	+
5	Subtraction	-
6	Concatenation (putting strings together, like Jenn & ifer)	&
7	Equal To	=
7	Greater Than	>
7	Less Than	<

To enter a formula

- Place the cursor in the cell where the formula will appear, i.e.E5.
- Enter an = sign. All Excel formulas start with the 'equal' sign.
- Enter the expression that will produce the result you want. This can consist of operands, values, variables, and symbols which represent mathematical procedures such as + or – to add and subtract, e.g. A5+C5.
- When the formula is complete, press **Enter**. The result of the formula will be calculated and displayed in the cell E5.
- You can see the formula in the **Formula bar** at the top of the screen by placing the cell pointer on the cell E5.



- If there is an error in a formula, an error message is displayed which will begin with a # sign.

To know the formula error messages

- When writing formulas it is easy to make a mistake. Here are some common mistakes:

Error	Meaning
#####	The contents of the cell cannot be displayed correctly as the cell column is too narrow.
#REF!	Indicates that a cell references is invalid. (Often displayed when you delete cells which involved a formula)
#NAME?	Excel does not recognize text contained within a formula.

To enter a cell or range reference by pointing

- Place the cursor in the cell where the formula will appear.
- Enter the formula up to the point of the cell or range reference, e.g. to enter the formula =E2+E5, only enter the = sign.
- Using the arrow keys, move the cell pointer to the first cell reference, in this case E2. The formula will track your progress and enter the current address into the formula.
- Enter the operand, + sign.
- Using the arrow keys, move the cell pointer to the second cell reference, in this case E5. If you are calculating a range of cells, hold down the Shift key while using the arrow keys to move to the intended cells.
- Press Enter to complete the formula when you have reached the cell you require.

Excel Formulas

- A forumla is nothing more than an equation that you write up. In Excel a typical formula might contain cells, constants, and even functions. Here is an example Excel formula that we have labeled for your understanding.

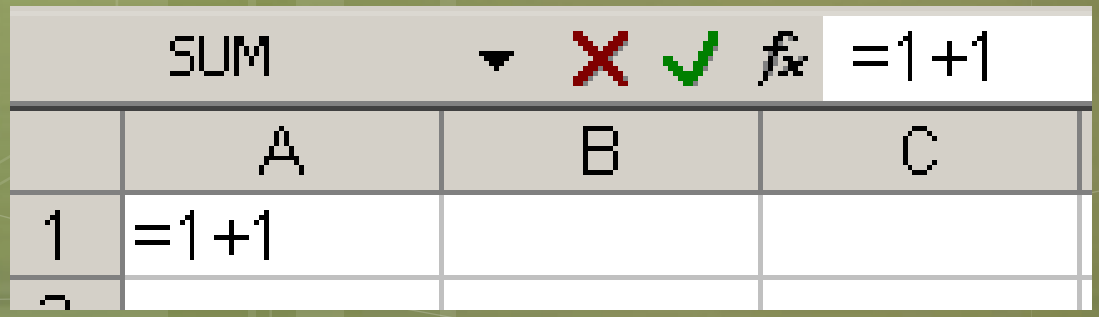
=B3 * 5 / SUM(B4:B7)

- **cell(s)**: B3 and the range of cells from B4:B7
- **constant(s)**: 5
- **function(s)**: SUM()

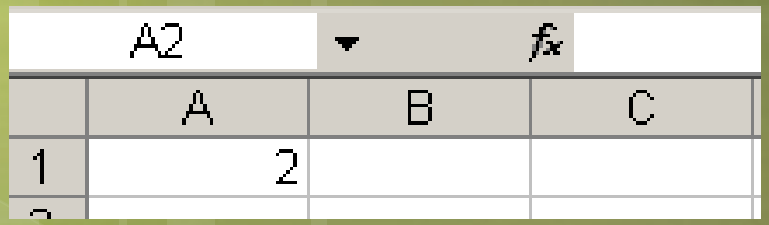
Creating Your First Formula

This first formula will be as simple as they come and will teach you the basic form of an Excel formula. Create a new spreadsheet and then follow these steps:

- Select cell A1
- Type the following basic arithmetic formula into cell A1: =1+1



- Press Enter and notice how cell A1 changes from your formula to the result!



- This may seem simple, but there are a some very important things you should get out of this example. When you start off a cell entry with the equal sign "=" you are telling Excel that you want it to evaluate the following formula.
- In our case we had a simple "1+1" we wanted Excel to solve for us. You can do this for addition, subtraction, multiplication, division and any other operation you can think of.

Remember, if you do not start your entry with the equal sign, then Excel will not evaluate the cell!

Using Cells to Create Dynamic Formulas

The most powerful aspect of Excel is not the simple calculator abilities we describes in our first formula example, but rather the ability to take values from cells to be used in your formulas.

- Let's set up a basic sales spreadsheet to help explain this topic.
- In cells A1-D4 enter the following information:

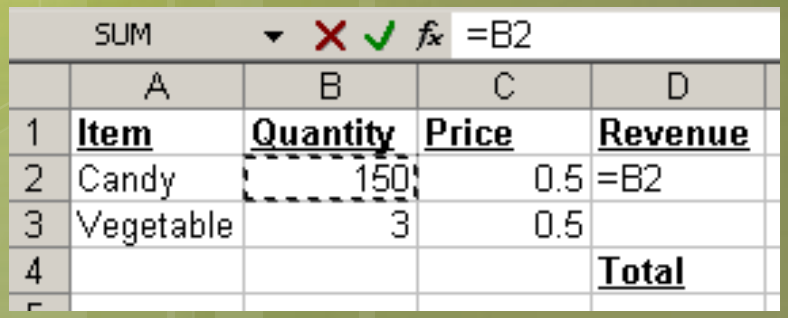
D4 fx Total

	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	
3	Vegetable	3	0.5	
4				**Total**

- **Notice:** that cell D2 [illegible] ount of money from selling 150 candy items and 3 vegetables. By referencing the Quantity and Price cells we will be able to do this! Let's begin with **Candy**.

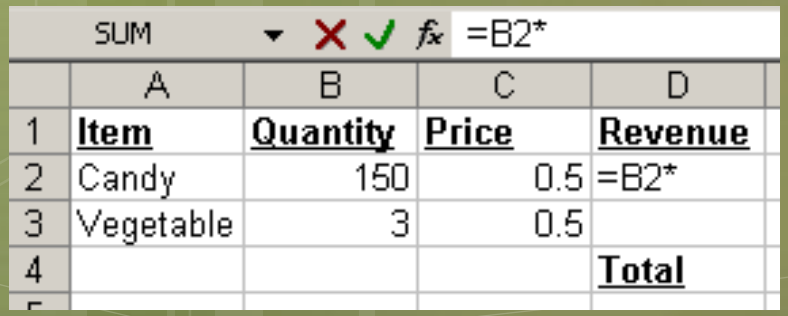
- **Note:**It is very important to follow these steps exactly without interruptions! Select cell D2, candy's "revenue", and type the equal sign "=" to begin your formula.

- Left-click on cell B2, Candy's Quantity and notice your formula is now "=B2"



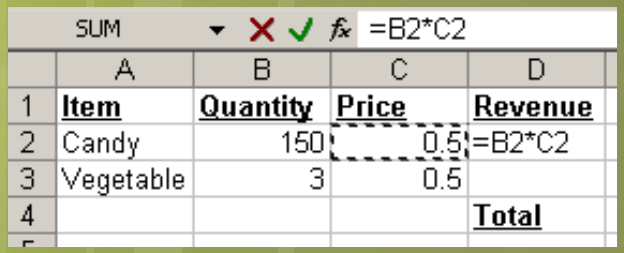
	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	=B2
3	Vegetable	3	0.5	
4				**Total**

- We want to multiply Quanity(B2) by Price(B3) so enter an asterisk (*)



	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	=B2*
3	Vegetable	3	0.5	
4				**Total**

- Now left-click on Candy's Price (C2)to complete your formula!



- If your formula looks like ours then press Enter, otherwise you can manually enter the formula "=B2*C2". However, we really think it is easier and preferred to click on cells to reference them, instead of entering that information manually.
- After you pressed Enter your Candy Revenue cell should be functioning properly and contain the value 75.

- Using your newly gained knowledge please complete Vegetable's Revenue by repeating steps 2-7 for Vegetable
- Your spreadsheet should now look like this:

D4 fx Total

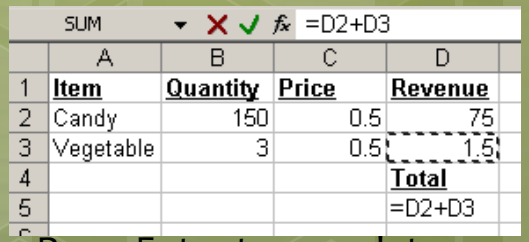
	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	75
3	Vegetable	3	0.5	1.5
4				**Total**

- Cheatsheet: If you are having trouble creating the formula for Vegetable's Revenue it is "=B3*C3"

Advanced Excel Formulas: Using Formulas in Formulas

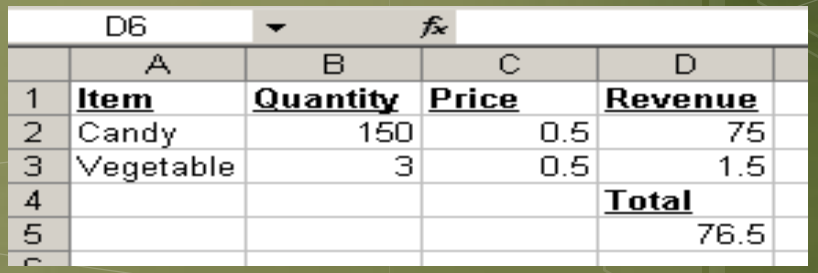
Now that we have created separate revenues for both Candy and Vegetable it would be nice to somehow combine these two values to get the Total Revenue. Although both Vegetable Revenue and Candy Revenue contain formulas, we can still use these cells as we have been doing and add them together to get our total.

- Select cell D5 (directly below "Total")
- Type the equal sign "="
- Left-click cell D2
- Type the plus sign "+"
- Left-click cell D3. Cell D5 should now contain this formula "=D2+D3":



	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	75
3	Vegetable	3	0.5	1.5
4				**Total**
5				=D2+D3

- Press Enter to complete your Total Revenue!



	A	B	C	D
1	**Item**	**Quantity**	**Price**	**Revenue**
2	Candy	150	0.5	75
3	Vegetable	3	0.5	1.5
4				**Total**
5				76.5

Excel 2007 Functions: An Introduction

Excel 2007 Functions are build-in, special commands that incorporated into the formulas to perform mathematical calculations. It can be used to make complex operations simple. Excel 2007 contains a build-in list of worksheet functions, which are categorised to make it easy to search for the ones you need.

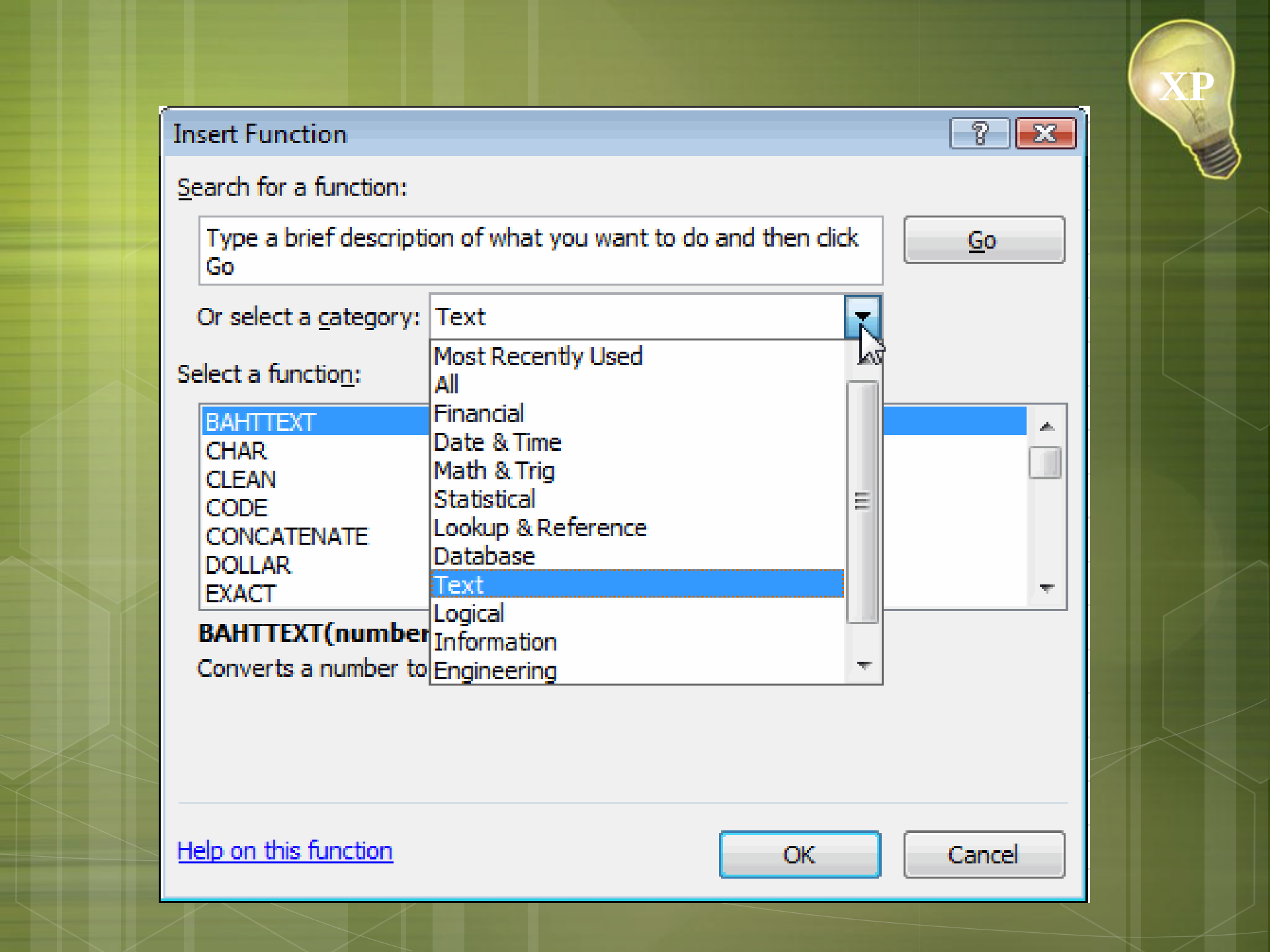
- **Functions** are special commands used in formulas to perform mathematical processes.

- Excel has over 300 built-in functions divided into various function categories, including:
  - Financial
  - Logical
  - Text
  - Date & Time
  - Lookup & Reference
  - Math & Trigonometry
  - Information
  - Database
  - Statistical
  - Engineering
  - Cube

- Here are some commonly used functions:
  AVERAGE: Used to determine the average value of the selected cells contents.
  COLUMNS: Used to return the number of columns within a reference.
  COUNT: Used to count how many numbers are in the list.
  MAX: Used to return the maximum number from a list.
  MIN: Used to return the minimum number from a list.
  ROUND: Used to round off numbers to a specified number of decimal points.
  SUM: Used to add the contents of selected cells.

To display all the available functions

- Open a blank Excel workbookClick on the **Formulas** tab and within the **Function Library** group click on the **Insert Function** icon.


Insert Function
Search for a function:
Type a brief description of what you want to do and then click Go
Go
Or select a category:
Text
Most Recently Used
All
Financial
Date & Time
Math & Trig
Statistical
Lookup & Reference
Database
Text
Logical
Information
Engineering
Select a function:
BAHTTEXT
CHAR
CLEAN
CODE
CONCATENATE
DOLLAR
EXACT
BAHTTEXT(number
Converts a number to
Help on this function
OK
Cancel

- From the **Insert Function** dialog box displayed, under **Or select a category:** section, select a particular category function, the related functions will displayed.

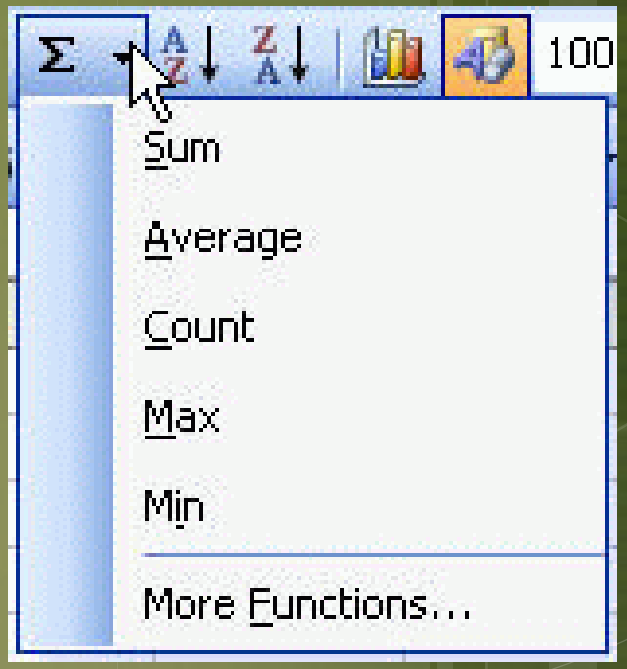
To enter functions directly into the worksheet cell

- Select the cell into which the formula will be entered.
- Insert an equal (=) sign to begin the formula. The formula toolbar buttons will appear.
- Enter the name of the function [e.g. SUM], followed by an opening parenthesis [(], any arguments required for the function [e.g. E2:E5], and closing parenthesis[)].
- Press **Enter**. If there are no errors in the formula, the result of the function will be entered in the cell. If you activate the cell again, the function will be displayed in the formula bar.

To use the AutoSum function

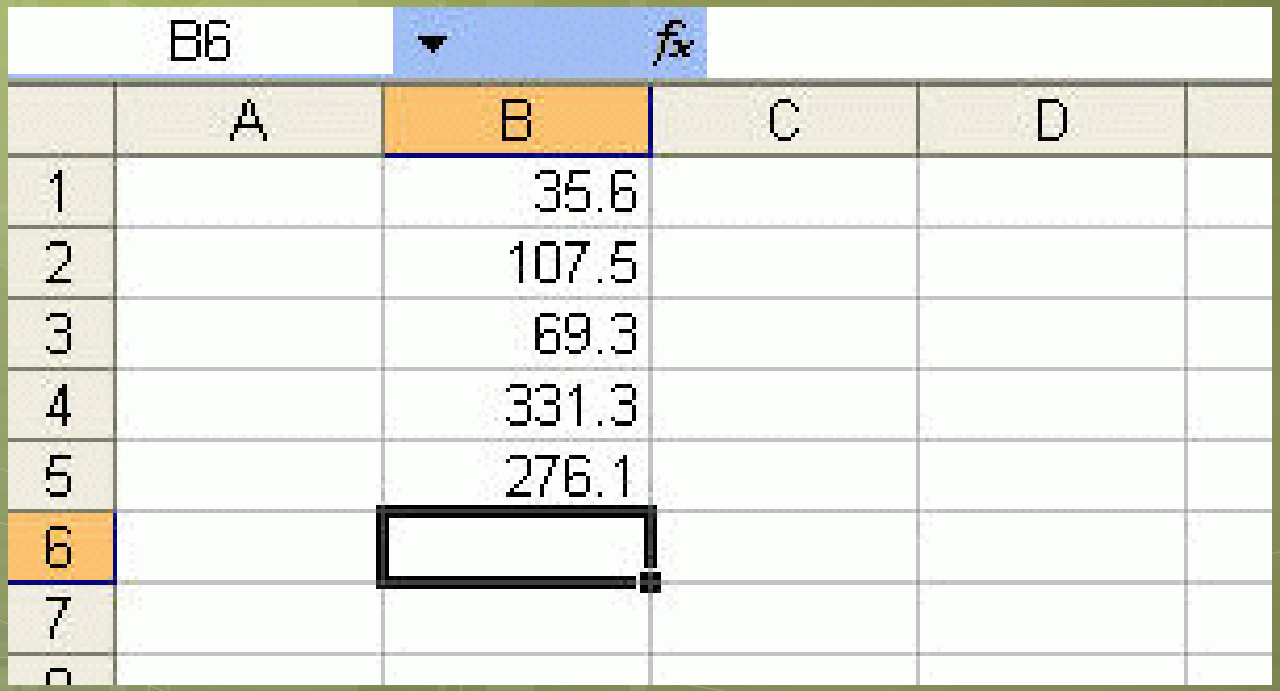
- The functions can be accessed through the **AutoSum** icon on the **Standard** toolbar.
- The functions included in the AutoSum drop-down menu will insert the function and predict the arguments.
- For example, if the active cell is positioned at the bottom of the list of values, AutoSum will display a sum function with the list of the arguments.

- Sum -- add the contents of the list of arguments.
- Average -- determine the average value of the list of arguments.
- Count -- count the number of values in the list of arguments.
- Max -- return the maximum number in the list of arguments.
- Min -- return the minimum number in the list of arguments



Example: Using the Average function

- Enter the values as shown below from B1 to B5 and select the cell B6 which the formula will be entered.



- From the **Insert Function** dialog box displayed, under **Or select a category:** section, select a particular category function, the related functions will displayed.

- Click the down arrow beside the **AutoSum** icon on the **Standard** toolbar and choose **Average** from the drop-down menu.
- If the predicted range is correct, press the **Enter** key. If it is incorrect, select (click and drag) the range you want with the mouse and press the**Enter** key.
- The result will show in cell B6. You can use the same method to do other functions such as SUM, Max, etc.

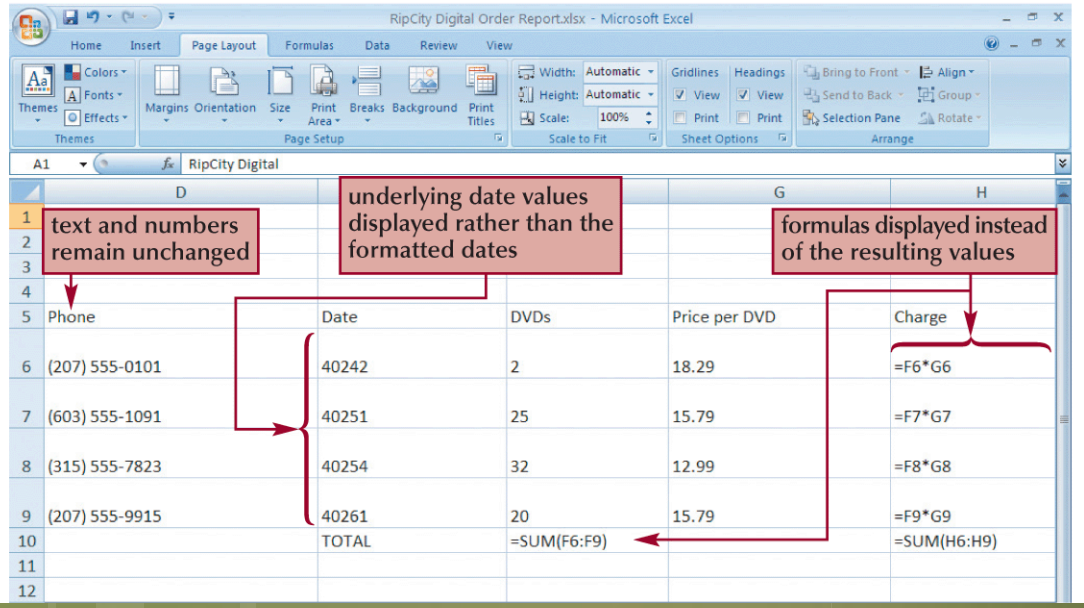
Note: Excel formula and function is one of the most powerful feature in Microsoft Excel.

Viewing and Printing Worksheet Formulas

- You can view the formulas in a workbook by switching to **formula view**, a view of the workbook contents that displays formulas instead of the resulting values
- To change the worksheet to formula view, press the **Ctrl+`** keys
- **Scaling** a printout reduces the width and the height of the printout to fit the number of pages you specify by shrinking the text size as needed

Viewing and Printing Worksheet Formulas

Figure 1-34 Worksheet in formula view



Viewing and Printing Worksheet Formulas

Printout scaled to one page Figure 1-35