



# **MICROSOFT EXCEL**



# INTRODUCTION

- ❖ Microsoft Excel is allow you to create professional spreadsheets and charts.
- ❖ It is quite useful in entering, editing, analysis and storing of data.
- ❖ It performs numerous functions and formulas to assist you in your projects.
- ❖ MS-EXCEL is the replacement of calculator, pencil work.
- ❖ You can create charts with colors, add clip arts in excel .



- ❖ A New **workbook** contains **256 worksheets**.
- ❖ The **worksheet** is a grid of **COLUMNS** and **ROWS**.
- ❖ The **intersection** of a column and a row is called a **CELL**.
- ❖ Each **cell** on the **spreadsheet** has a **CELL ADDRESS** that is the **column letter** and the **row number**.



# FEATURES:

- ❖ Data entry using keyboard
- ❖ Worksheet can be saved and retrieved for further editing
- ❖ Various formatting options can be used to format the data stored in the cells
- ❖ Allows mathematical calculations
- ❖ Automatic recalculation is done when previous entries are changed
- ❖ Results calculated are reliable
- ❖ You can import and export data from one worksheet to another
- ❖ The scenario option available helps us to answer “what if” questions

# STARTING MICROSOFT EXCEL

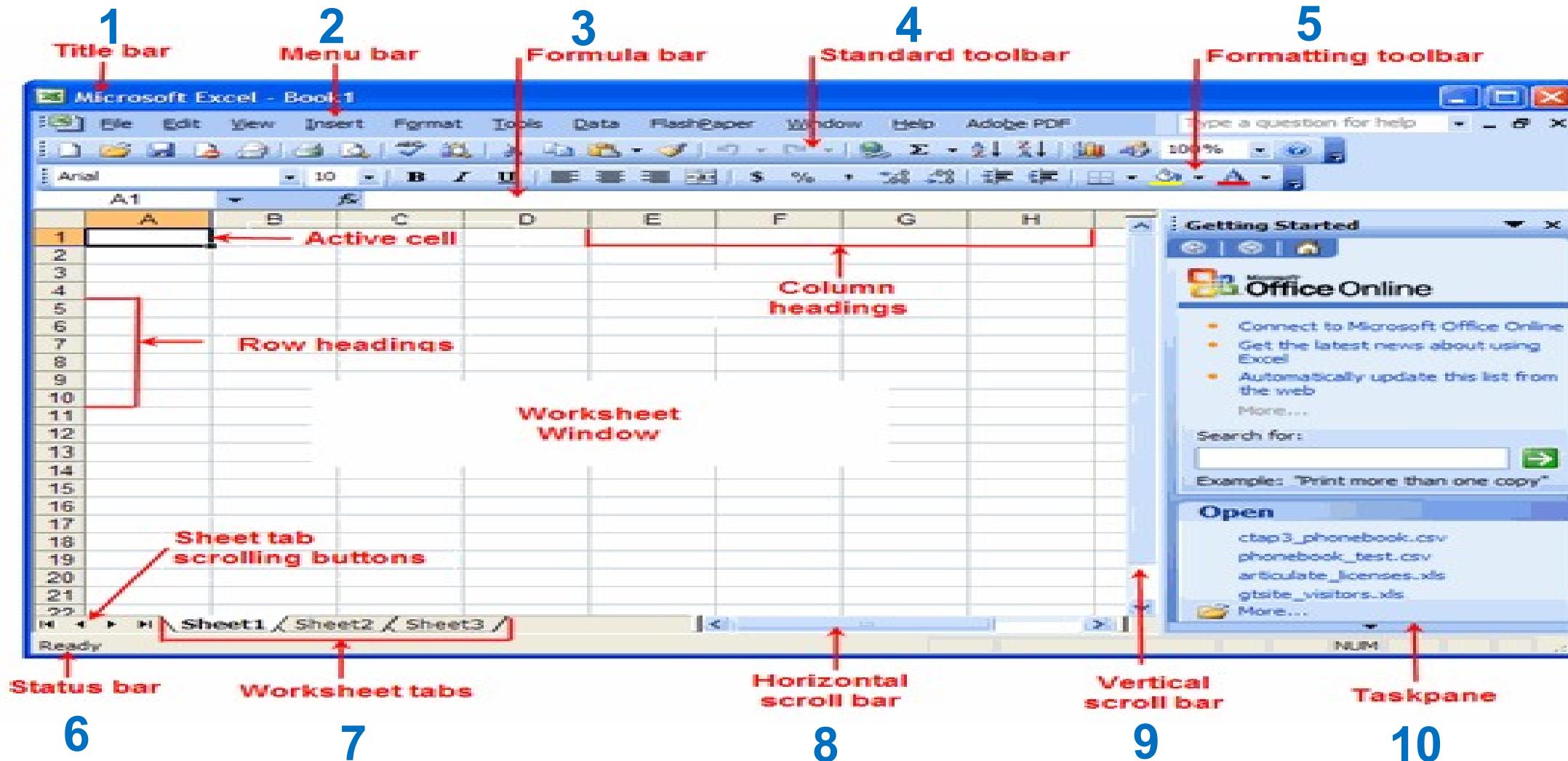


- ❖ Double click on the Microsoft Excel icon on the desktop.
- ❖ OR
- ❖ Click on Start → Programs → MS-Office → Microsoft Excel OR
- ❖ Write the EXCEL on run dialog box.



# ANATOMY OF MS-EXCEL

- ❖ When you open MS Excel a window on the screen flashes it has number of parts.



# 1. **THE TITLE BAR :-**

- ❖ Title bar is located at the very top of the screen.
- ❖ On the title bar, Microsoft excel displays the name of the Workbook you are currently using.
- ❖ At the top of your screen, you should see
- ❖ “Microsoft excel-book1” or a similar name.

# 2. **THE MENU BAR :-**

- ❖ The menu bar is directly below the title bar and displays a list of the menus that you can use to give commands to excel.
- ❖ Clicking on a menu name displays a drop down menu of commands.
- ❖ You can move across the menu bar and down the drop-down menus with your mouse or by highlighting one of the menu items and using the arrow keys on your keyboard.



→ **FILE :-**

file-related commands to open , save ,close ,print and cerate new files.

→ **EDIT:-**

commands to copy, cut, paste, find, and replace text.

→ **VIEW:-**

commands to change how the workbook is displayed on the screen.

→ **INSERT:-**

list items that you can insert into a workbook, such as graphics and charts.

→ **FORMAT:-**

commands to format fonts, cell alignment, and borders.

→ **TOOLS:-**

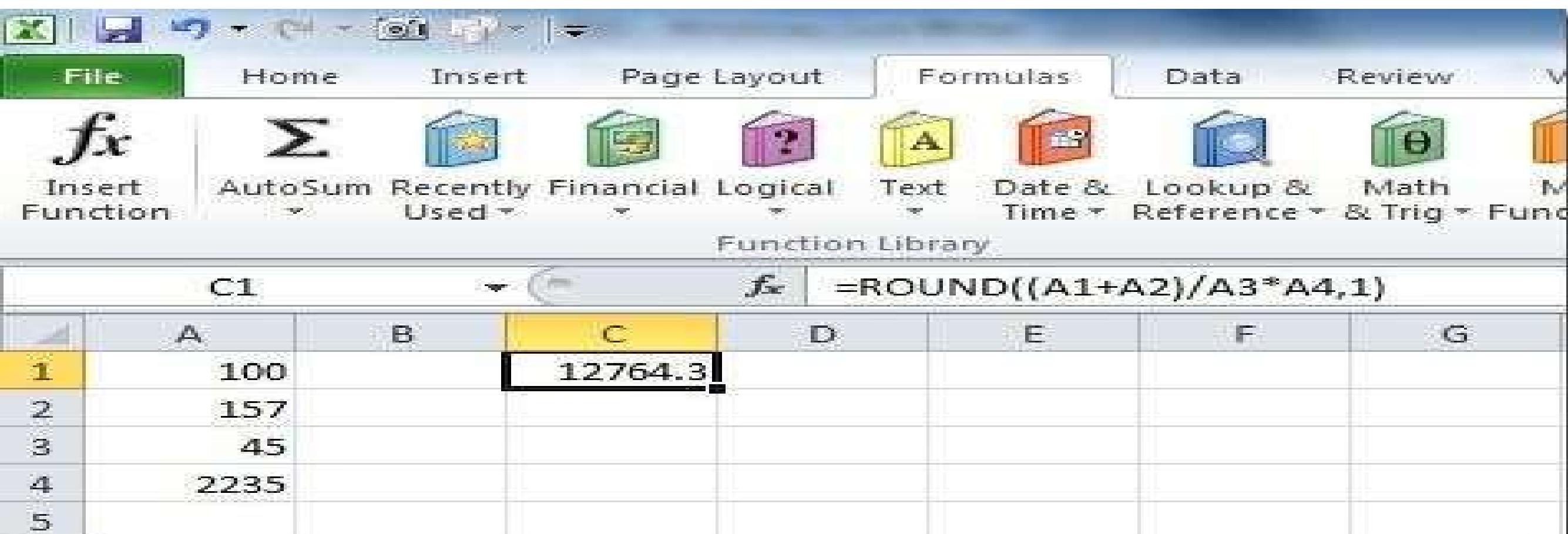
lists tools such as the spell checker and macros.

→ **HELP:-**

get help on using the excel program

### 3. THE FORMULA BAR:-

If the formula bar is turned on, the cell address displays on the left side of the formula bar. Cell entries display on the right side of the formula bar.



The screenshot shows the Microsoft Excel ribbon with the 'Formulas' tab selected. The 'Function Library' group is open, displaying categories: AutoSum, Recently Used, Financial, Logical, Text, Date & Time, Lookup & Reference, Math & Trig, and More. The formula bar at the top shows the cell address 'C1' and the formula '=ROUND((A1+A2)/A3\*A4,1)'. The main worksheet area shows a table with columns A, B, and C. Row 1 contains values 100, 157, and 12764.3. Row 2 contains values 2, 3, and 45. Row 4 contains the value 2235. The cell C1 is highlighted in yellow.

	A	B	C	D	E	F	G
1	100		12764.3				
2	157						
3	45						
4	2235						
5							



## 4. STANDARD TOOLBAR

- ▶ Toolbar is a collection of tools or icons displayed in a long bar that can move or reshaped to make it convenient to use.
- ▶ Each icon in a toolbar corresponds to a command



## 5. FORMATTING TOOLBAR:

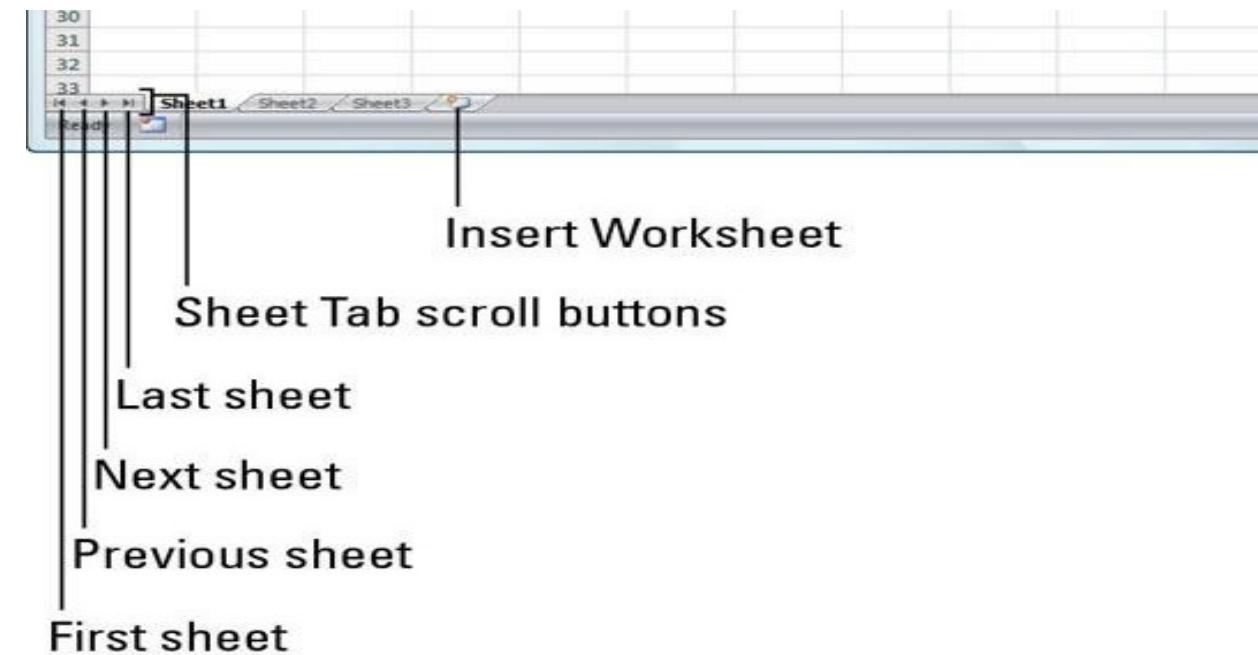
- ❖ Here various formatting options are available.

## 6. Status bar:

- ❖ displays the name of the command at the left hand side of status bar.
- ❖ It gives status operations in program.

## 7. WORKSHEET TABS :-

- ❖ You can keep multiple worksheets together in a group called a workbook.
- ❖ For example you could have a separate worksheet for each month of the year in a workbook for the year 2010.
- ❖ You can give worksheets your own meaningful names by placing your cursor over the sheet name and typing.
- ❖ By default, excel opens with three worksheets.



# **HORIZONTAL SCROLLBAR**

# **VERTICAL SCROLLBAR**



- ❖ Using horizontal and vertical scroll bar you can move(up or down) and (left or right) respectively.

# ENTERING TEXT

## CELLS:-

- ❖ The workbook is made up of cells.
- ❖ There is a cell at the intersection of each row and column.
- ❖ A cell can contain a value, a formula, or a text entry.
- ❖ A text entry is used to label or explain the contents or the value of a formula.

## ROWS, COLUMNS AND SHEETS:-

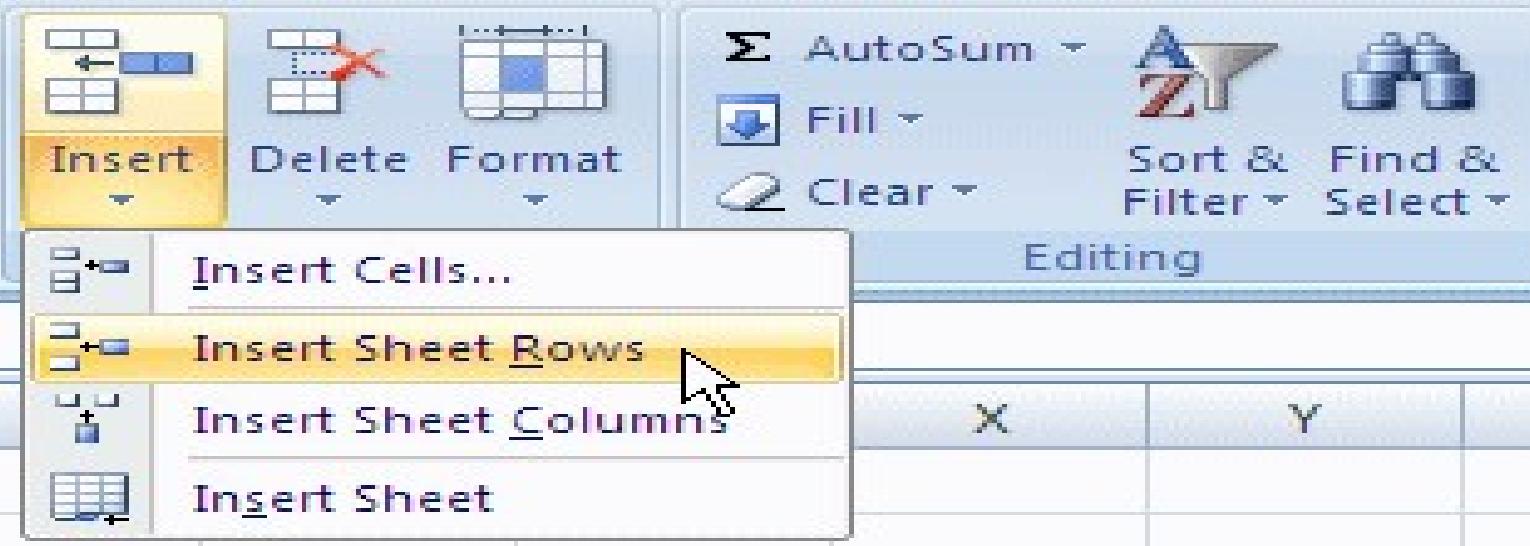
- ❖ The Excel worksheet contains 16,384 rows that extend down the worksheet, numbered 1 through 16384.
- ❖ The Excel worksheet contains 256 columns that extend across the worksheet, lettered A through Z, AA through AZ, BA through BZ, and continuing to IA through IZ.
- ❖ The Excel worksheet can contain as many as 256 sheets, labeled sheet1 through sheet 256.
- ❖ The initial number of sheet in a workbook, which can be changed by the user is 16.

# INSERTING CELLS :

❖ When you create a worksheet the need to move the cells occurred frequently. That is inserting cells, deleting cells.

## INSERTING A COLUMN:

- The following are the various steps to insert column in the worksheet:
  1. Select the range of cells in your worksheet.
  2. Right click the mouse a shortcut menu appears OR you can also select cells option from INSERT menu.





- 3. Select Insert dialog box shortcut menu.**
- 4. Four options appeared.**
  - a) Insert Cell.**
  - b) Insert Sheet Rows**
  - c) Insert Sheet Columns**
  - d) Insert Sheet**
- 5. Selected cells will be free and now you can type the data onto cells.**

# INSERTING A ROW :

- a) Inserting rows means inserting row somewhere in the worksheet.**  
The following are the steps to insert row:
- b) Click the header of a row in your worksheet.**
- c) Right click the mouse a shortcut menu appears.**
- d) Select Insert dialog box a new blank row appears on selected row.**
- e) When click insert dialog box anew blank row appears on selected row.**
- f) You can now type the data in that row.**

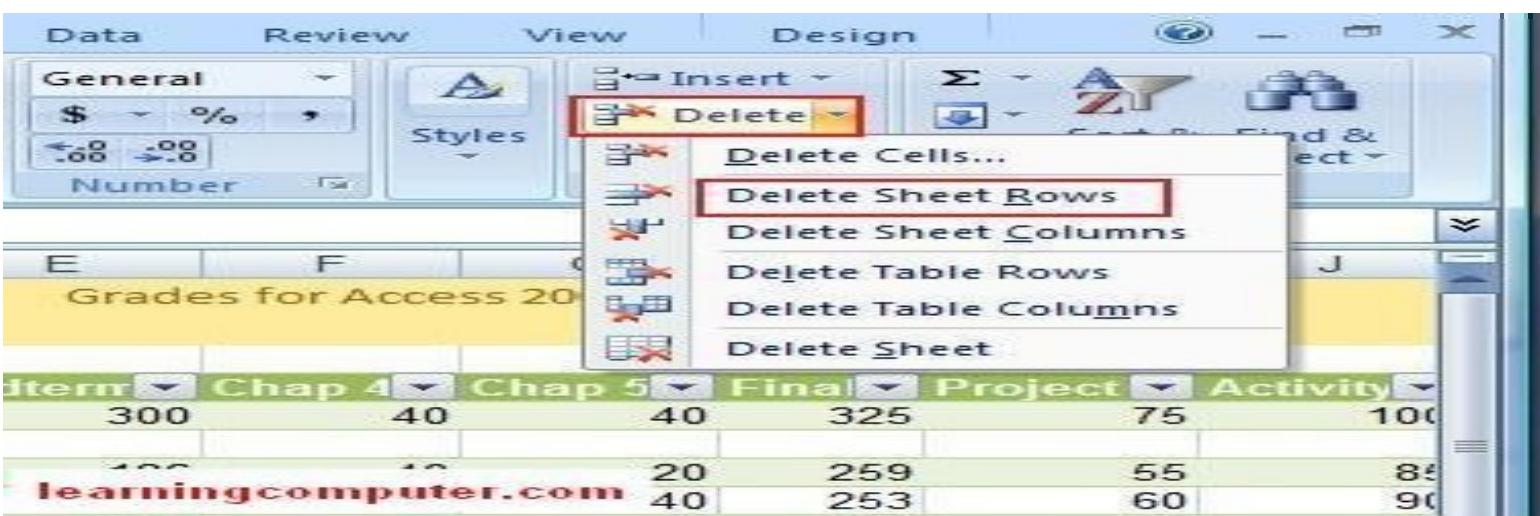
# DELETING CELLS:

**Deleting row or column means you want to delete row or column from worksheet.**

**The steps to delete row or column are same as under:**

➤ **DELETING A ROW OR COLUMN:**

- 1. Click the header of a row in your worksheet.**
- 2. Right click the mouse a shortcut menu appears.**
- 3. Select delete dialog box from shortcut menu.**
- 4. Five options appeared:**





5. After clicking delete box the selected rows gets deleted from worksheet.

➤ **DELETING A CELL ENTRY:**

**To delete an entry in a cell or a group of cells, you place the cursor in the cell or highlight the group of cells and press DELETE.**

- 1. Place the cursor in cell A5.**
- 2. Press the Delete key.**

# WORKING WITH FORMULAS AND FUNCTIONS



## Entering a Formula:

- A formula is an expression that returns a value.
- A formula is written using operators that combine different values, returning a single value that is then displayed in the cell.
- The most commonly used operators are arithmetic operators.
- The order of precedence is a set of predefined rules used to determine the sequence in which operators are applied in a calculation.

Sample Excel formulas using arithmetic operators			
Operation	Operator	Example	Description
Addition	+	=10+A5 =B1+B2+B3	Adds 10 to the value in cell A5 Adds the values of cells B1, B2, and B3
Subtraction	-	=C9-B2 =1-D2	Subtracts the value in cell B2 from the value in cell C9 Subtracts the value in cell D2 from 1
Multiplication	*	=C9*B9 =E5*0.06	Multiplies the value in cell C9 by the value in cell B9 Multiplies the value in cell E5 by 0.06
Division	/	=C9/B9 =D15/12	Divides the value in cell C9 by the value in cell B9 Divides the value in cell D15 by 12
Exponentiation	^	=B5^3 =3^B5	Raises the value in cell B5 to the third power Raises 3 to the power specified in cell B5

Figure 1-12



# ENTERING A FORMULA:

**Figure 1-13** Examples illustrating order of precedence rules

Formula (A1=50, B1=10, C1=5)	Order of precedence rule	Result
=A1+B1*C1	Multiplication before addition	100
=(A1+B1)*C1	Expression inside parentheses executed before expression outside	300
=A1/B1-C1	Division before subtraction	0
=A1/(B1-C1)	Expression inside parentheses executed before expression outside	10
=A1/B1*C1	Two operators at same precedence level, leftmost operator evaluated first	25
=A1/(B1*C1)	Expression inside parentheses executed before expression outside	1



# ENTERING A FORMULA:

- Click the cell in which you want the formula results to appear.
- Type = and an expression that calculates a value using cell references and arithmetic operators.
- Press the Enter key or press the Tab key to complete the formula.



# ENTERING A FORMULA:

Figure 1-24      Formula references color coded

The screenshot shows a Microsoft Excel spreadsheet titled "RipCity Digital Orders - Microsoft Excel". The table contains 10 rows of customer information. The formula bar at the top shows the formula `=F6*G6`. The cell `F6` is highlighted with a blue border, and the cell `G6` is highlighted with a green border. The formula `=F6*G6` is also visible in the formula bar. The table columns are labeled: Last, First, Address, Phone, Date, DVDs, Price per DVD, and Charge.

	A	B	C	D	E	F	G
1	RipCity Digital						
2	Customer Orders						
3	3/31/2010						
4							
5	Last	First	Address	Phone	Date	DVDs	Price per DVD
6	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2010	2	\$17.29
7	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2010	25	\$15.79
8	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2010	32	\$12.99
9	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2010	20	\$15.79
10							

# COPYING AND PASTING FORMULAS



- With formulas, however, Excel adjusts the formula's cell references to reflect the new location of the formula in the worksheet

## Formula copied and pasted

**Figure 1-25**



# INTRODUCING FUNCTIONS:

- A function is a named operation that returns a value
- For example, to add the values in the range A1:A10, you could enter the following long formula:

**=A1+A2+A3+A4+A5+A6+A7+A8+A9+A10**

Or, you could use the SUM function to accomplish the same thing:

**=SUM(A1:A10)**



# ENTERING A FUNCTION:

Figure 1-26 → SUM function being entered

SUM function being entered

RipCity Digital Orders - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

Paste **Clipboard** Font Alignment Number Styles Insert Delete Format Cell Styles Cells Sort & Filter Find & Select Editing

SUM **=SUM(F6:F9)**

	A	B	C	D	E	F	G	H	I
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	\$17.29	\$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	=SUM(F6:F9)			
11						SUM(number1, [number2, ...])			
12									

a colored border surrounds the range entered in the function

ScreenTip shows the function being entered

=SUM(F6:F9)  
SUM(number1, [number2, ...])



# ENTERING FUNCTIONS WITH AUTOSUM:

- The AutoSum button quickly inserts Excel functions that summarize all the values in a column or row using a single statistic
  - + Sum of the values in the column or row
  - + Average value in the column or row
  - + Total count of numeric values in the column or row
  - + Minimum value in the column or row
  - + Maximum value in the column or row



# ENTERING FUNCTIONS WITH AUTOSUM:

Figure 1-27

SUM function entered with AutoSum

RipCity Digital Orders - Microsoft Excel

click to enter an AutoSum function in the active cell

Excel inserts the SUM function into the selected cell

=SUM(H6:H9)

	A	B	C	D	E	F	G	H	I
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	\$17.29	\$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			
11									
12									

The screenshot shows a Microsoft Excel spreadsheet titled "RipCity Digital Orders". The data is organized into columns: Last Name, First Name, Address, Phone Number, Date, DVDs, Price per DVD, and Charge. Row 10 is the active cell, containing the formula "=SUM(H6:H9)". A red callout box with the text "click to enter an AutoSum function in the active cell" points to the AutoSum button in the ribbon. Another red callout box with the text "Excel inserts the SUM function into the selected cell" points to the formula bar. The ribbon tabs visible are Home, Insert, Page Layout, Formulas, Data, Review, and View. The formula bar shows the formula =SUM(H6:H9). The status bar at the bottom right shows the formula SUM(number1, [number2], ...).

# **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

RipCity Digital Order Report.xlsx - Microsoft Excel			
Home Insert Page Layout Formulas Data Review View			
Themes	Colors	Margins	Orientation
Themes	Fonts	Size	Print Area
Effects	Print	Breaks	Background
A1	f4	RipCity Digital	
1	text and numbers remain unchanged	underlying date values displayed rather than the formatted dates	formulas displayed instead of the resulting values
2			
3			
4			
5	Phone	40242	Charge
6	(207) 555-0101	40251	=F6*G6
7	(603) 555-1091	40254	=F7*G7
8	(315) 555-7823	40261	=F8*G8
9	(207) 555-9915	TOTAL	=SUM(F6:F9)
10			15.79
11			
12			

# OBJECTIVES:

- **Create an embedded chart**
- **Work with chart titles and legends**
- **Create and format a pie chart**
- **Work with 3D charts**
- **Create and format a column chart**
- **Create and format a line chart**
- **Use custom formatting with chart axes**
- **Work with tick marks and scale values**
- **Create and format a combined chart**
- **Insert and format a graphic shape**
- **Create a chart sheet**

# PROTECTING WORKSHEETS/WORKBOOKS



- ▶ We need to protect the cells, worksheets, workbooks from the access of unauthorized users who may change or copy the data.
- ▶ User can apply password to the worksheet in order to protect it.
- ▶ A password may also be applied to range of cells.
- ▶ Applying password will make worksheet read only.
- ▶ When you unprotect it, it will become read/write file.



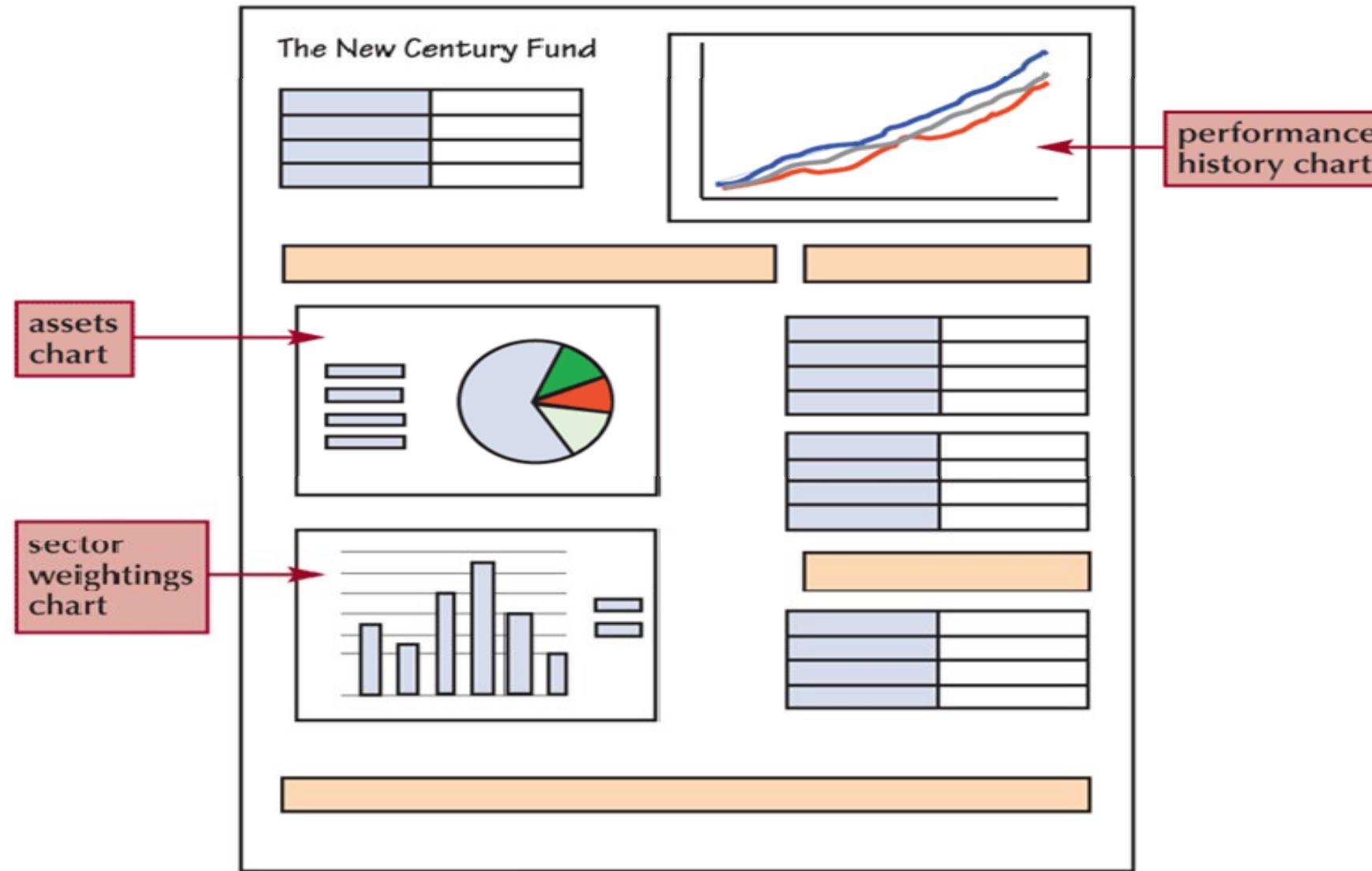
# CREATING CHARTS:

- A chart, or graph, is a visual representation of a set of data
- Select the data source with the range of data you want to chart
- In the Charts group on the Insert tab, click a chart type, and then click a chart subtype in the Chart gallery
- In the Location group on the Chart Tools Design tab, click the Move Chart button to place the chart in a chart sheet or embed it into a worksheet

# CREATING CHARTS:

Ajita's proposed summary report

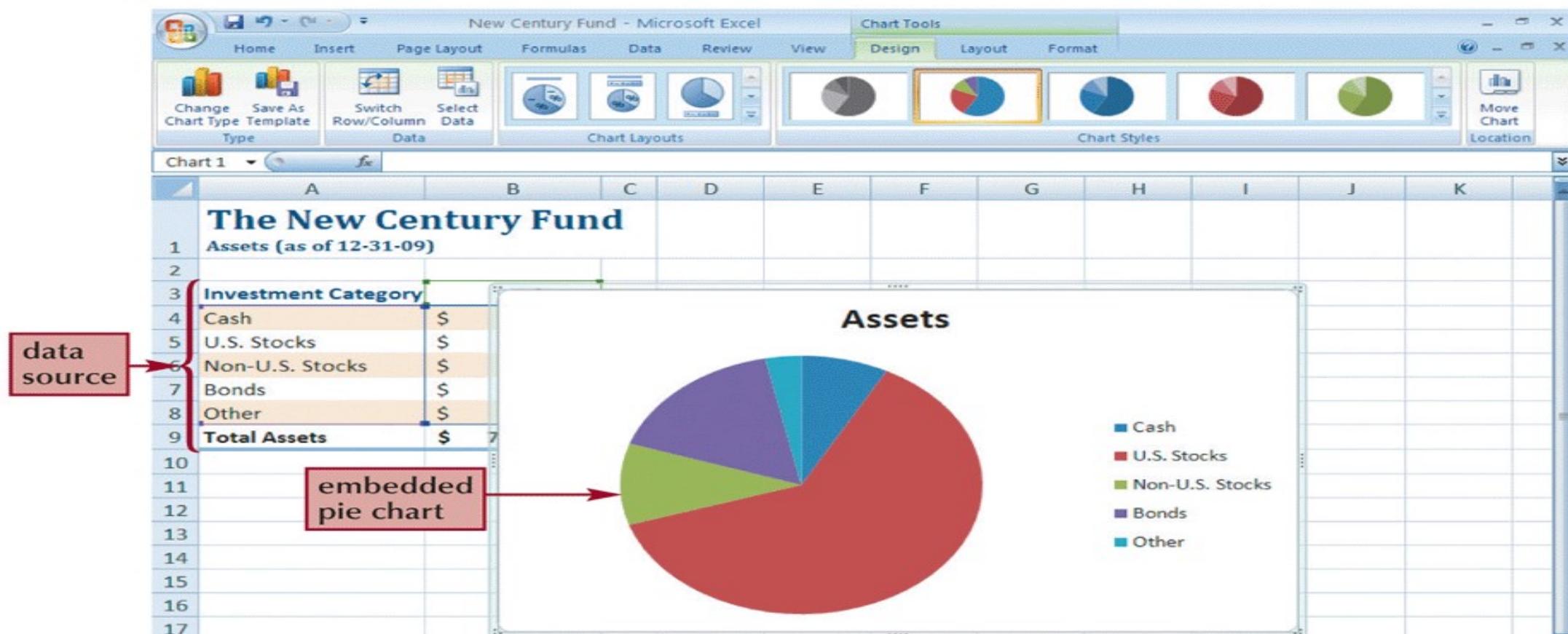
Figure 4-1



# SELECTING A CHART TYPE:

- Click the Insert tab on the Ribbon
- In the Charts group, click the Pie button

Figure 4-4 ➔ Pie chart inserted in the Assets sheet

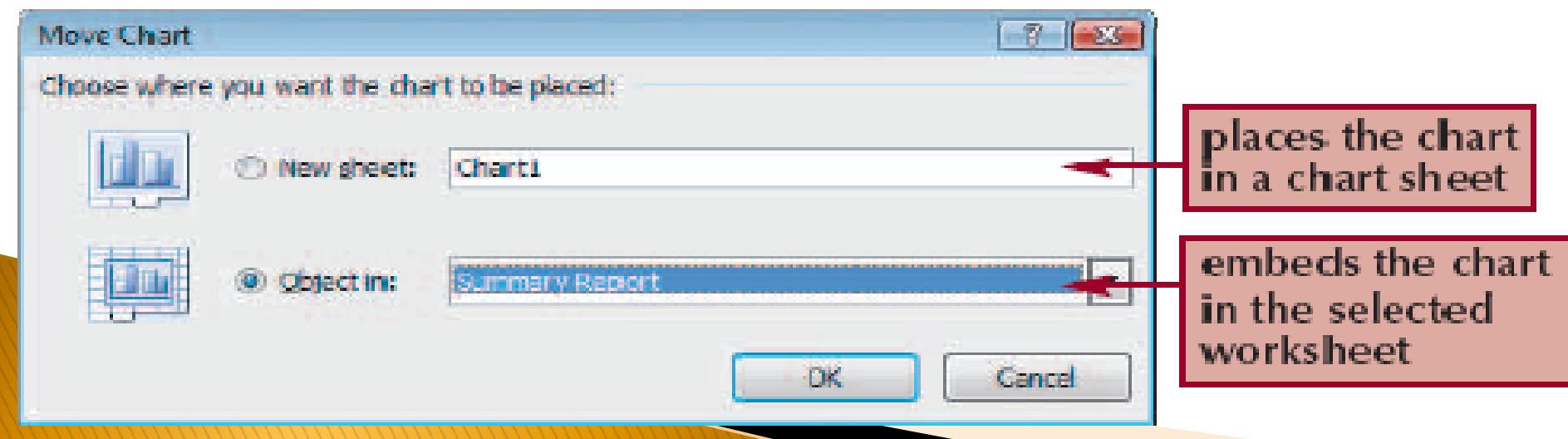


# MOVING AND RESIZING CHARTS:

- By default, a chart is inserted as an embedded chart, which means the chart is placed in a worksheet next to its data source.
- You can also place a chart in a chart sheet.
- In the Location group on the Chart Tools Design tab, click the Move Chart button.

Move Chart dialog box

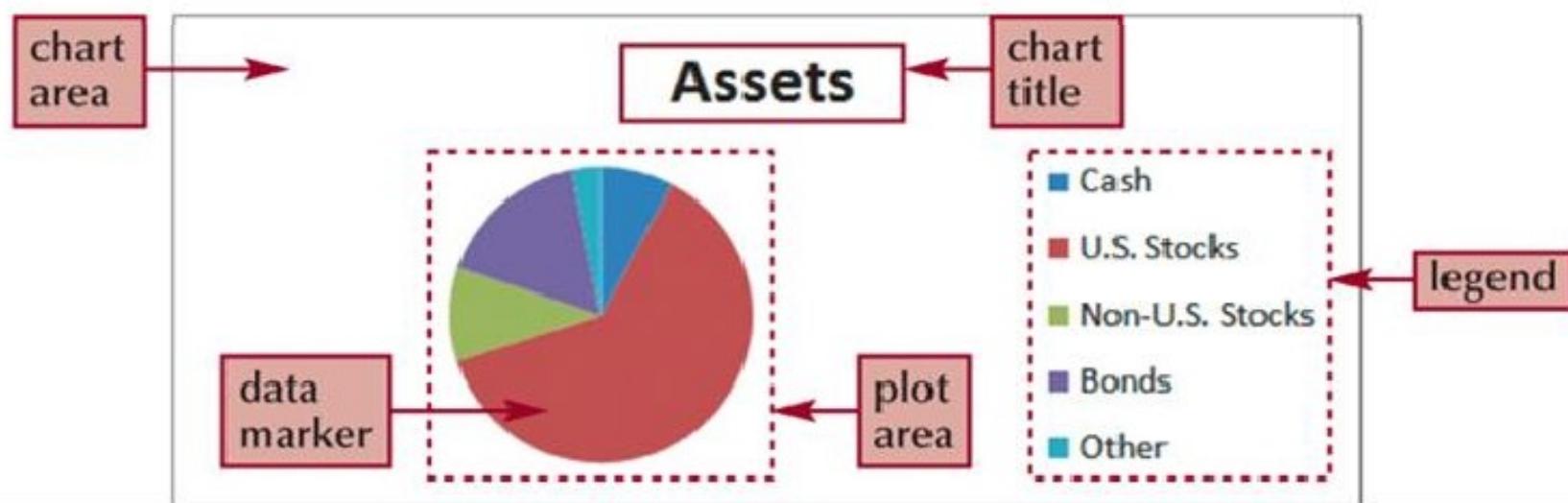
Figure 4-5



# SELECTING CHART ELEMENTS:

Common chart elements

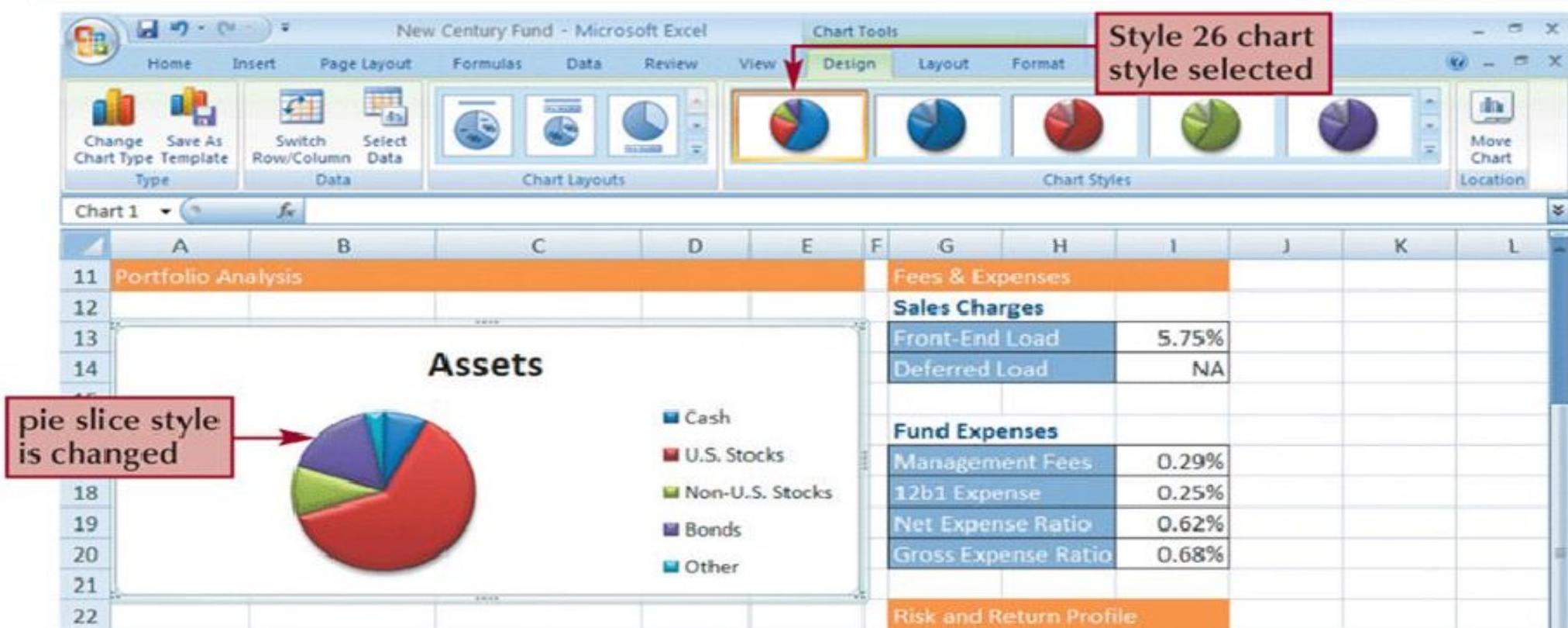
Figure 4-7



# CHOOSING A CHART STYLE AND LAYOUT:



Figure 4-8 → Style 26 chart style applied



# CHOOSING A CHART STYLE AND LAYOUT:



Figure 4-9

## Pie chart layouts

Layout	Name	Pie chart with
 A small pie chart icon with a legend and percentage labels.	Layout 1	Chart title, labels, and percentages
 A small pie chart icon with a legend and percentage labels positioned above the chart.	Layout 2	Chart title, percentages, and legend above the pie
 A small pie chart icon with a legend positioned below the chart.	Layout 3	Legend below the pie
 A small pie chart icon with labels placed directly inside the slices.	Layout 4	Labels in pie slices
 A small pie chart icon with a legend and percentage labels placed directly inside the slices.	Layout 5	Chart title and labels in pie slices
 A small pie chart icon with a legend and percentage labels positioned to the right of the chart.	Layout 6	Chart title, percentages, and legend to the right of the pie
 A small pie chart icon with a legend positioned to the right of the chart.	Layout 7	Legend to the right of the pie



# WORKING WITH THE CHART TITLE AND LEGEND:

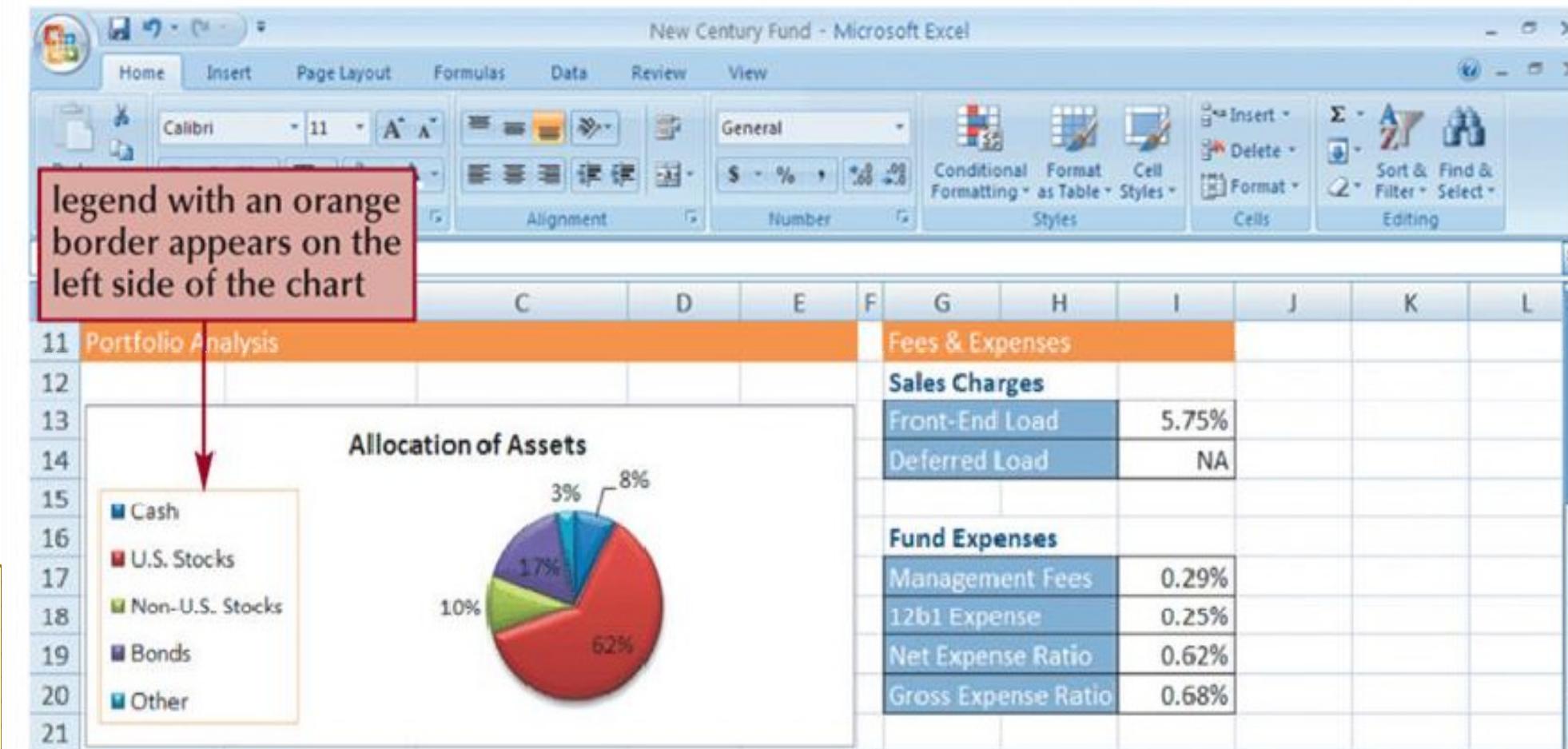
- **Click the chart title to select it**
- **Type the chart title, and then press the Enter key**
- **Click the Chart Tools Layout tab on the Ribbon**
- **In the Labels group, click the Legend button, and then click the desired legend position**

# WORKING WITH THE CHART TITLE AND LEGEND:



Chart legend moved and formatted

Figure 4-13

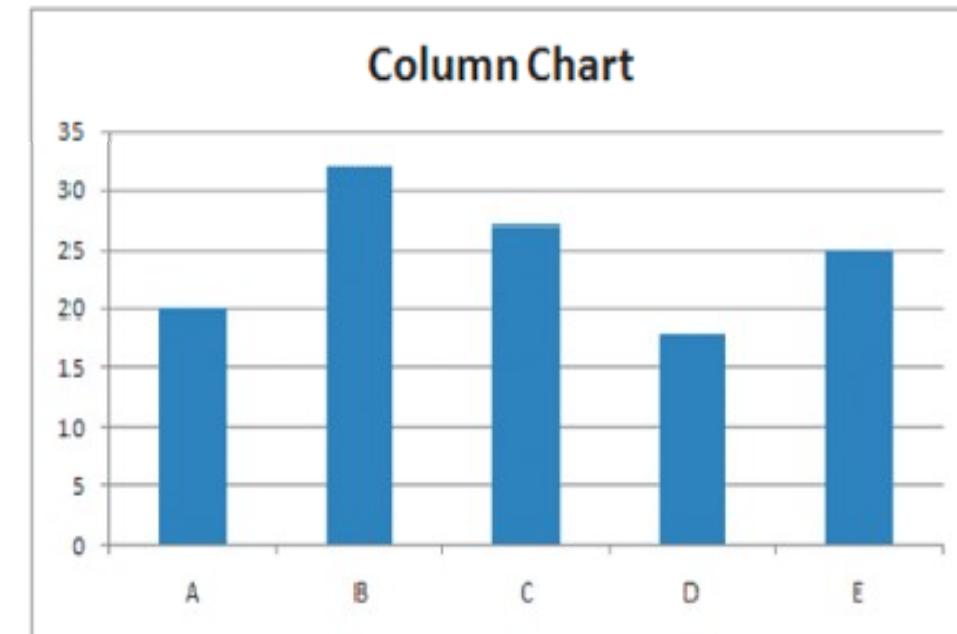
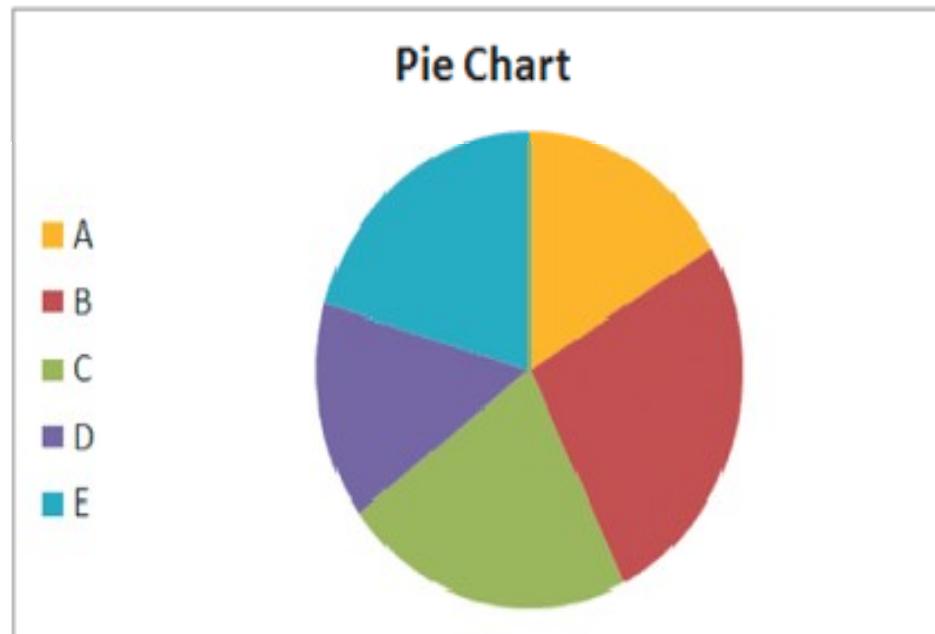


# CREATING A COLUMN CHART:

- A column chart displays values in different categories as columns; the height of each column is based on its value
- The bar chart is a column chart turned on its side, so each bar length is based on its value

Figure 4-21

Same data displayed as a pie chart and a column chart



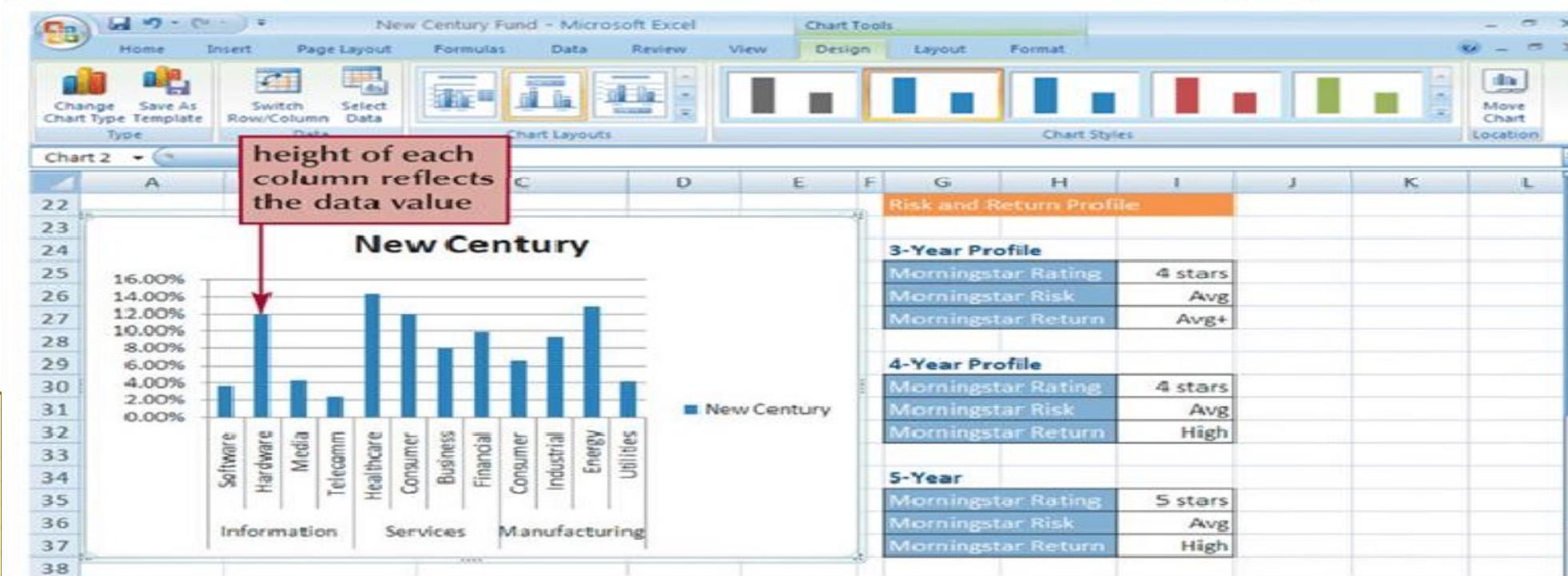


# CREATING A COLUMN CHART:

- Select the range.
- Click the Insert tab on the Ribbon.
- In the Charts group, click the Column button and then choose the chart subtype.

Column chart moved and resized in the Summary Report worksheet

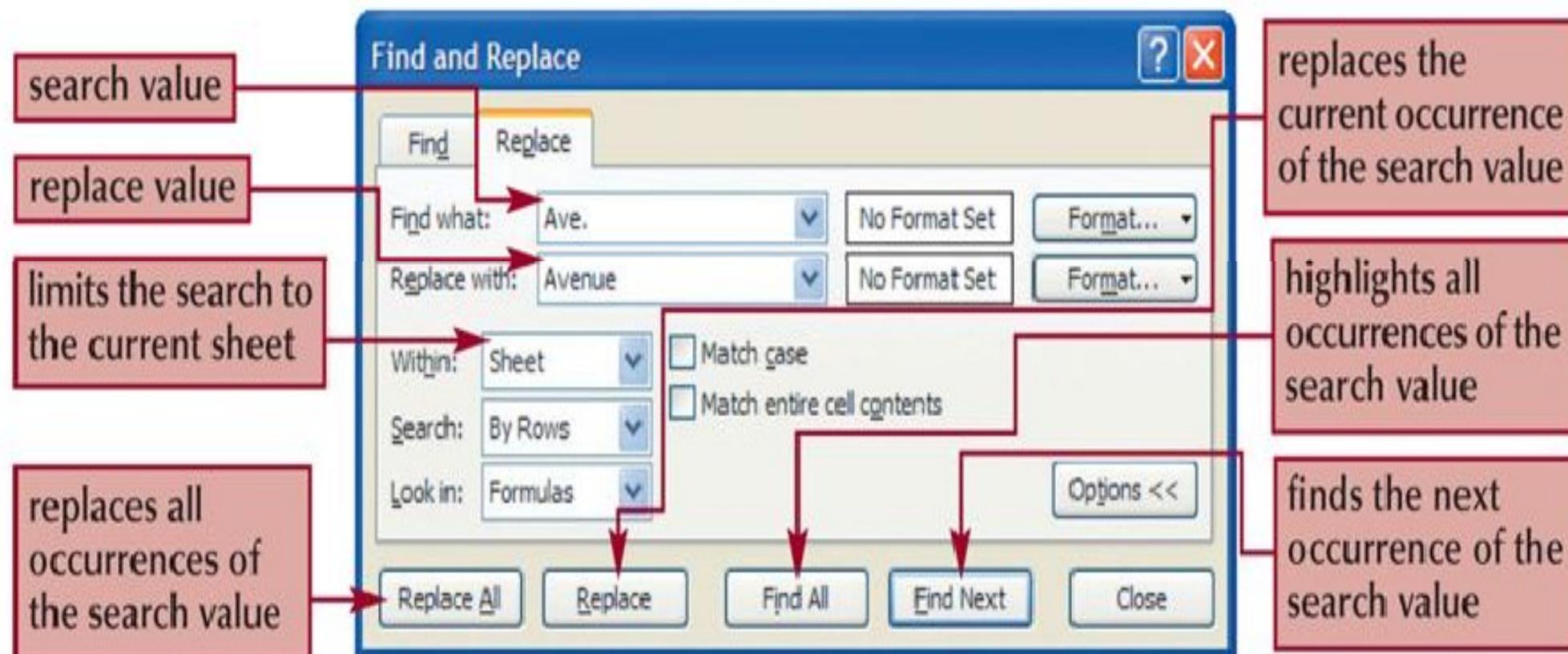
Figure 4-22



# 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

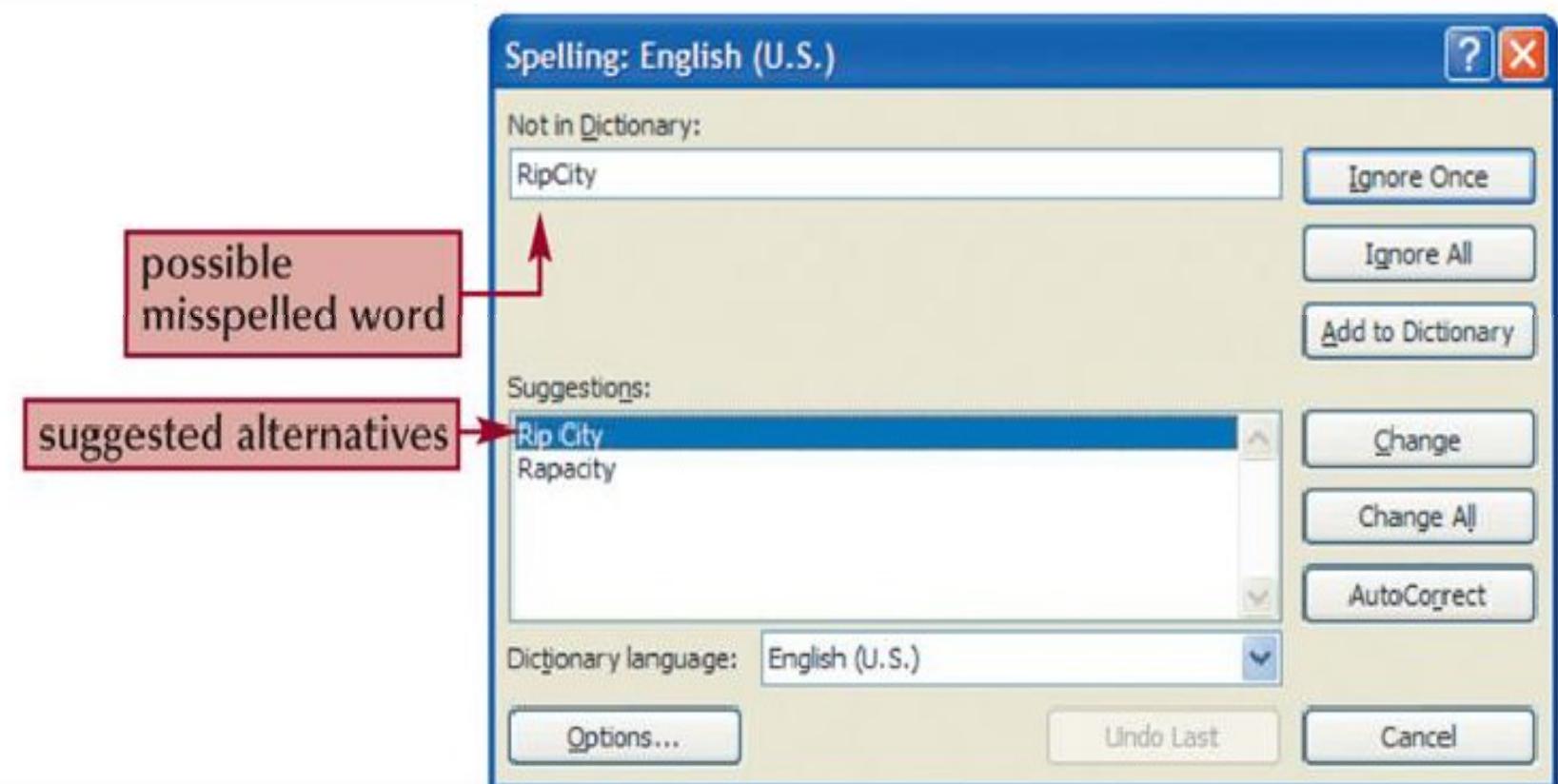




# USING THE SPELLING CHECKER:

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

Figure 1-31 ➔ Spelling dialog box





# THANK YOU