MS Excel 2007 Basics

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- Explanation of key terms in MS Excel

- Navigation of Excel Window and Basic Tools

- Creation of a Workbook

- Workbook - Data Entry, Formatting

- Calculations: total, average, simple formula

- Graphs/Charts

Key Terms in MS-Excel

- **A spreadsheet (worksheet): a piece of paper in which data can be manipulated by the computer stored in rows and columns.**

- **A workbook (Excel file) has multiple sheets.**

    - **Each sheet may have multiple pages.**

    - **Record and organize information in a row (record)-and-column (field) format.**

    - **Make calculations and simple statistical analyses across a row or a column.**

    - **Create charts based on the data displayed in a spreadsheet.**

Workbook vs Sheets

- A workbook refers to an Excel document. You will sometimes hear it called a "spreadsheet."

- In Default, each workbook has 3 "sheets" associated with it. You can rename these sheets to something more fitting to your purpose(e.g. Fall Term, Summer Term, Spring Term...)

- You can add sheets if you'd like to.

- Your workbook is the ENTIRE file and the file name should reflect the function the file serves.
  - Inventory.xlsx

Excel Workbook Window

- **Open the MS-Excel**
  - **Start-All Programs-Microsoft Office – Microsoft Office Excel 2007**
  - **This creates a new workbook.**
- **Open an Excel workbook – double-click on the practice file named "homeexpense.xlsx"**
- **Open an Excel workbook in Excel**
  - **Click on Office Button and select Open.**
  - **Locate the file via file folders.**
  - **Double-click on the file.**
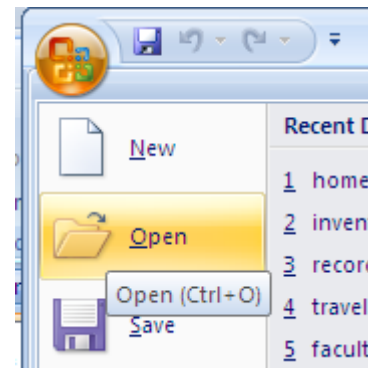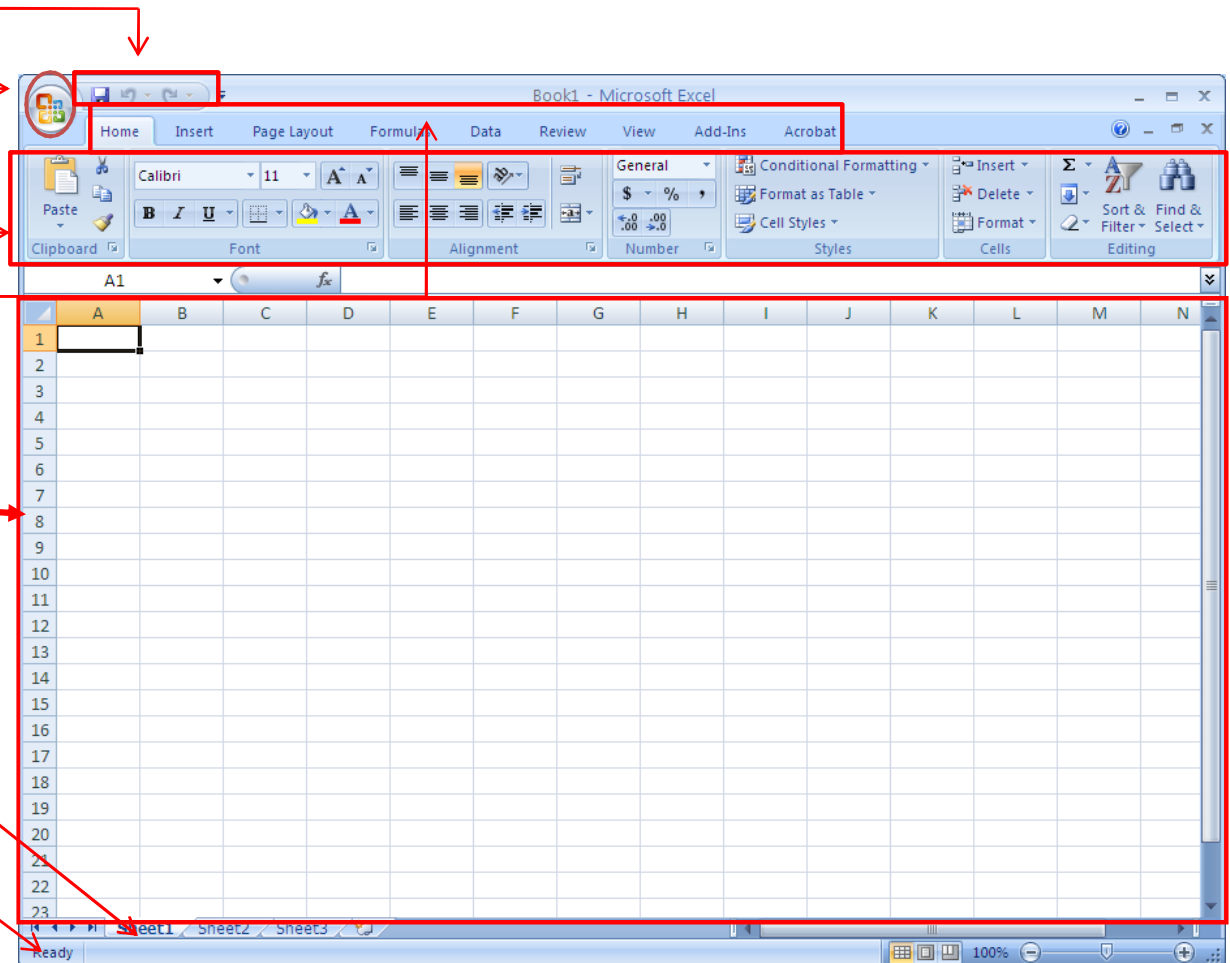
Excel Window

- MS Office Button
- Quick Access Toolbar
- Tab Bar
- Ribbon
- Worksheet Area
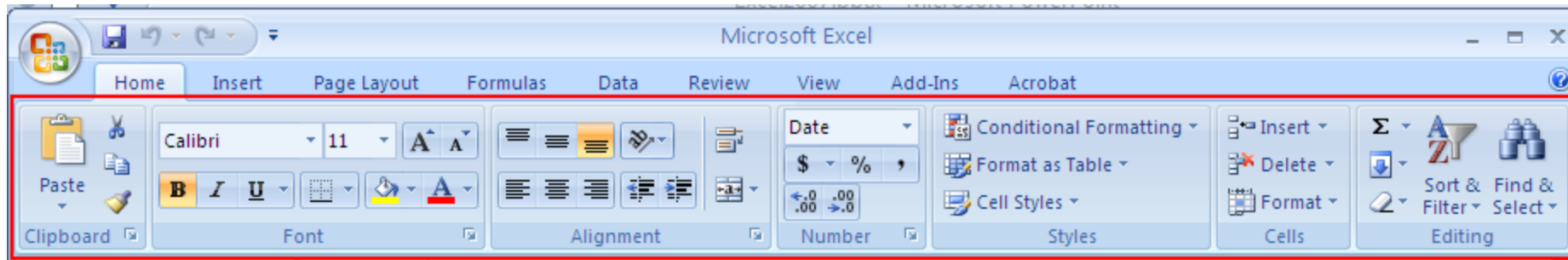- Sheet Tabs
- Status Bar
- Help: F1

Microsoft Office Button

- Performs many of the functions that were located in the **File** menu of older (or Excel 2010) versions.
  - New, Open, Save, Save As, Print, Send, Close, etc.
- File Format
  - Save As
    - Excel Workbook, .xlsx
      - Smaller size with new Office 2007 features.
   - Excel 97 – 2003 Workbook
    - Other Formats: web page, .csv

Ribbon

Font grouping   Paragraph grouping   Styles grouping

- ✖ Each "tab" (such as "**Home**", "Insert"...) will open a ribbon with several command items each in similar groupings.

- ✖ Home: has the common formatting tools, clipboard, fonts, paragraphs, number, Styles, Cells, and Editing.

The Workbook

- The workbook is comprised of:
  - Rows (labeled numerically)
  - Columns (labeled alphabetically)
  - Cells

- A cell is labeled with both a numerical and alphabetical value.
  - Naming convention:

    C3 is active as

    Indicated by the
- Tab Key: navigate cells.
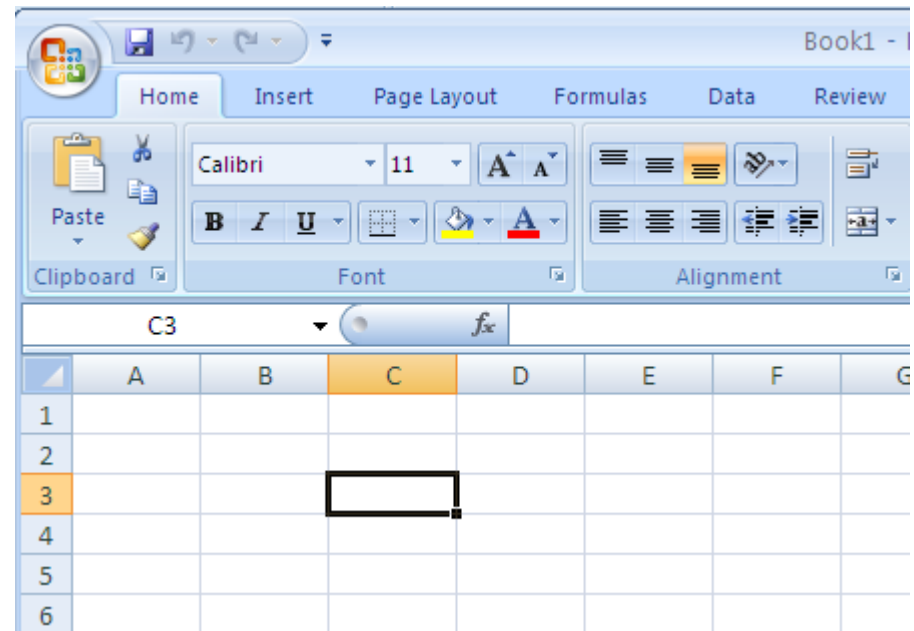
Steps - Creation of a Workbook

1. Create a new workbook.
2. Save it with a file name.
3. Enter data: column headings, row headings, and data.
4. Format data: column headings, row headings, and data.
5. Save the file.

A New Workbook

- You have a blank workbook when you open Excel.
    - Or click on **Office Button** and select **New**.
    - Click on **Create** button.
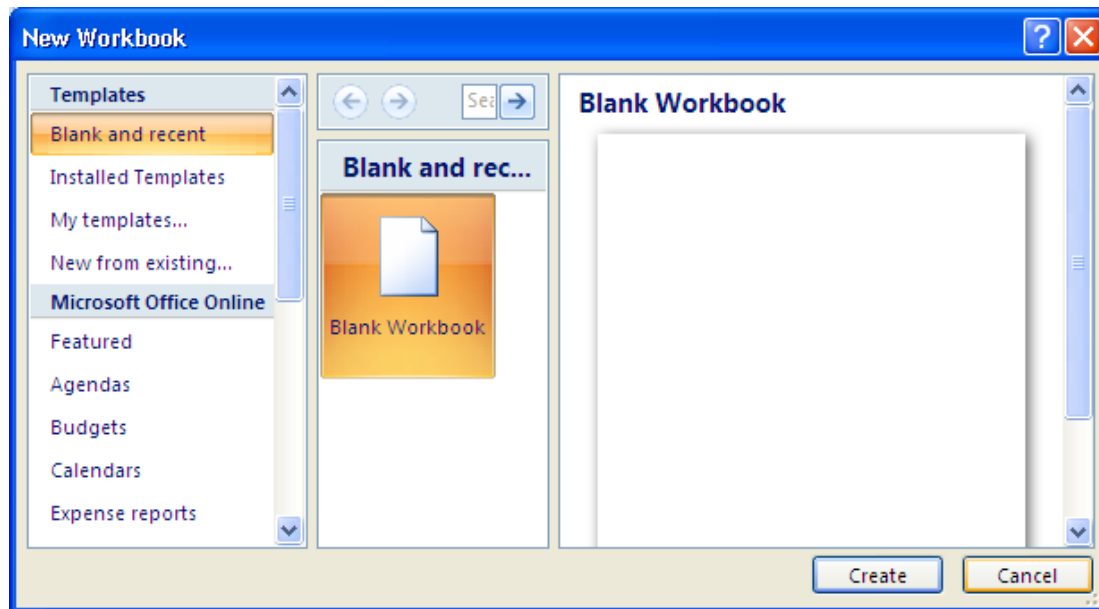
Save a Workbook

- Click on **Office Button** and select **Save** or **Save As**.
  - **Save**: save the workbook as .xlsx. This format is Excel 2007 compatible. It cannot be opened in previous version of Excel unless you have an Office 2007 converter installed.
  - **Save As**:
    - Excel Workbook - .xlsx
    - Excel 97 – 2003 Workbook - .xls
    - Other Formats - .CSV and others.

Creation of a Workbook

- You should always enter headings to columns and rows to identify what the numbers represent.

- Practice: make a workbook of home expenses.

Items	January	February	March	Total	Average
Clothing					
Grocery					
Gas					
Utilities					
Total					

Data Entry

- Place your mouse in a cell and click once. This will allow you to enter data in that cell.

- To move HORIZONTALLY across cells, hit TAB.

- To move VERTICALLY, hit ENTER.

- Practice:
  - Enter column heading and row heading.
  - Enter data.

Autofill – Fill in Months

AutoFill   Enter the months of the year, the days of the week, multiples of 2 or 3, or other data in a series. You type one or more entries, and then extend the series.

- **Fill in the months of the year**
  - Type in the first 2 months.
  - Change the cell type to Date type.
    - Select the row of the months by clicking on the row tab such as "1". Go to **Format** and select **Format Cells**... (bottom).
    - Select **Date** and click on **OK**.
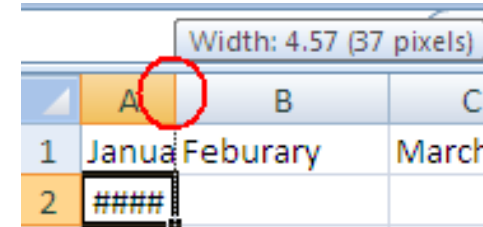
•Highlight the cells of the two months and drag the bottom right corner to expand the cells with the rest of the months.
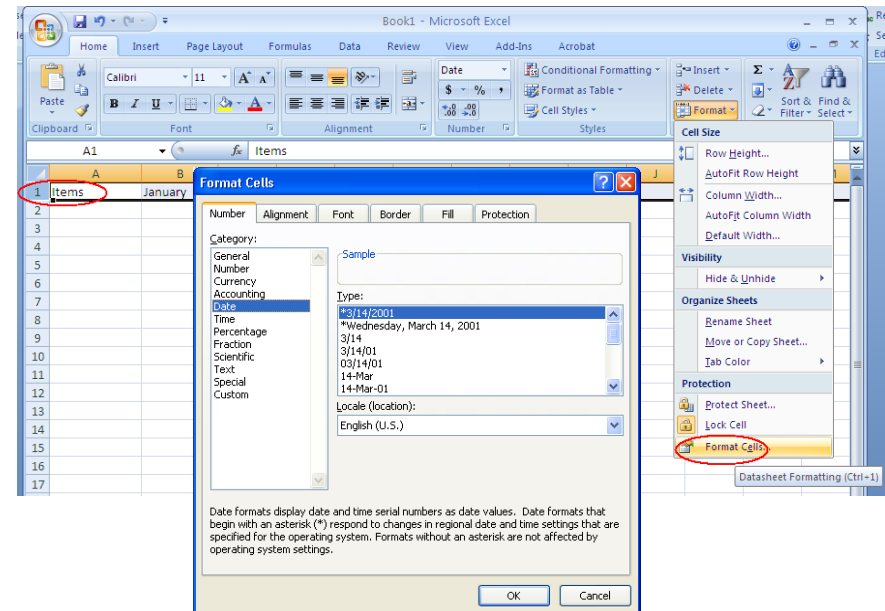
Types of Data

- You can enter numerical or text data in a cell.
- Enter numbers in cells. You may need to change the cell format to numbers.
    - Highlight number cells in the practice file, go to **Forma**t and select **Cell Format**. Select Number and click on OK.
- If you see ######, you need to expand your column so the data fits.
    - Double click on the line between the two column headings to auto-fit.
    - Drag the border between two columns.
- Change numbers to Currency with $ sign.
    - Highlight all number cells and click on $ icon.
- To enter fractions, leave a space between the whole number and the fraction. For example, 1 1/8.
- To enter a fraction only, enter a zero first. For example, 0 1/4. If you enter 1/4 without the zero, Excel will interpret the number as a date, January 4.

Insert a Row/Column

- Insert a row:
  - Select the row you would like to insert above
    - Clicking on the row number tab.
  - In **Home** tab, go to **Insert** and select **Insert Sheet Rows**.
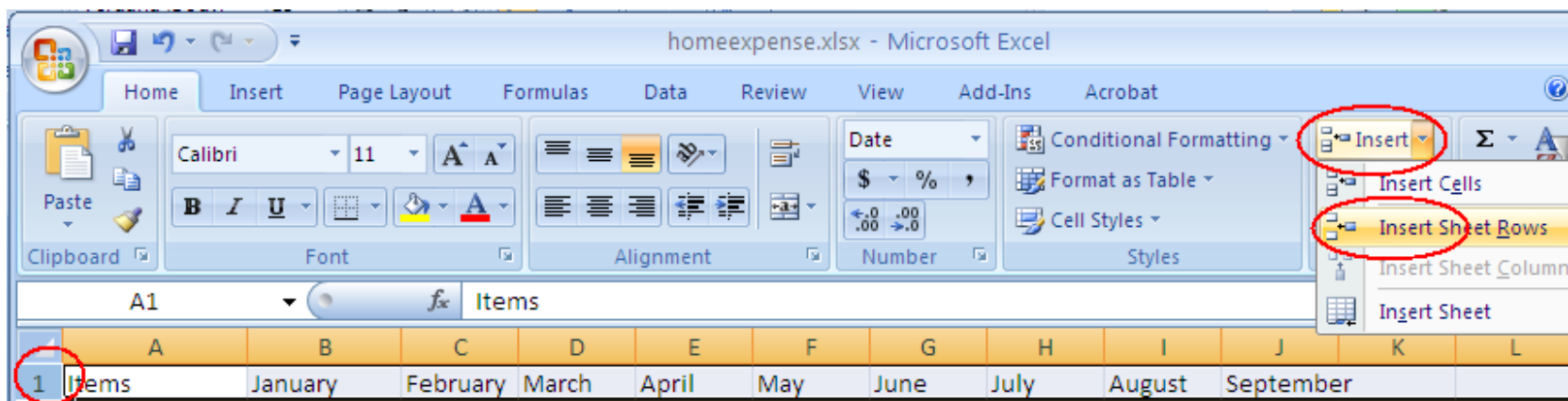
- Insert a column:
  - Select the column you would like to insert next to it
    - Clicking on the column letter tab such as L.
  - In **Home** tab, go to **Insert** and select **Insert Sheet Column**.
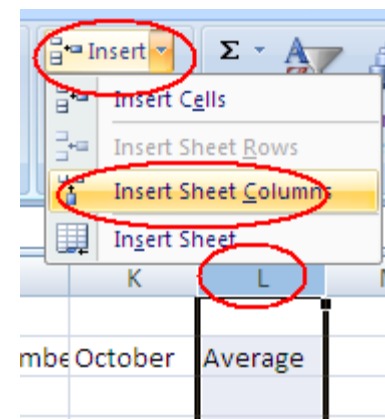
Change Column Width or Row Height

- Column Width
  - Drag the border between two columns to adjust a column width.
  - Adjust column width for a group of columns
    - Highlight the columns you want to adjust their width.
    - In **Home** tab, go to **Format** and select **Column Width**…
    - Enter a number of characters for column width. Click on OK.
- Row Height
  - Drag the border between two rows to adjust a row width.
  - Adjust row width for a group of rows
    - Highlight the rows you would like to change their height.
    - In **Home** tab, go to **Format** and select **Row Height**.
    - Enter a number of the row height and click on **OK**.
      - One point=.035 cm
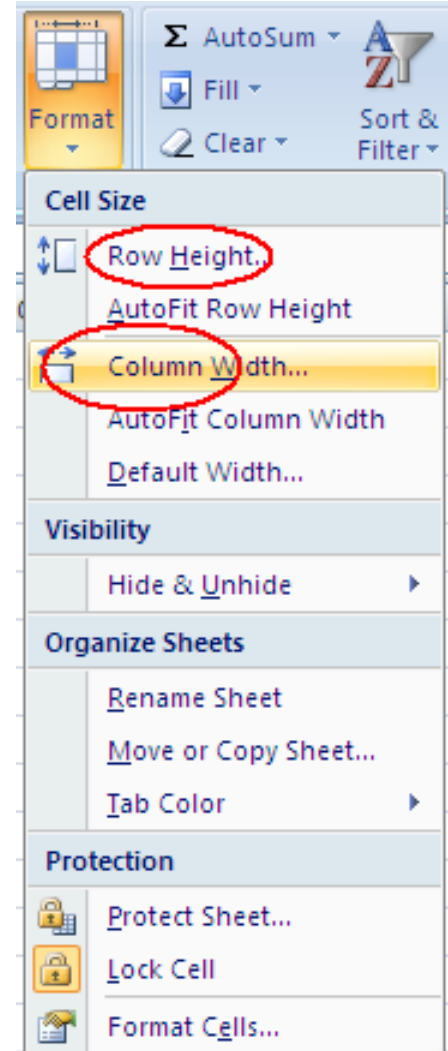
Format a Worksheet
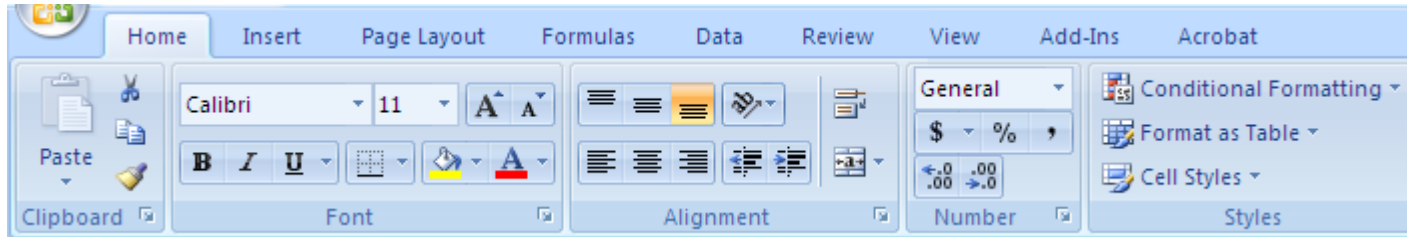
- Change the font size, color, and the background of a cell or group of cells.

- Select the cells you'd like to change. Then select a formatting tool.

- To show cell borders, highlight the cells and select a border.

Table Styles and Cell Styles

- Table Styles
  - Highlight the Excel table (all cells), go to **Format as Table** icon. Select a table style.
- Cell Styles
  - Highlight cells, go to **Cell Styles**, select a cell style.

Excel - Header and Footer

- In **Insert** tab, click on **Header & Footer** icon.
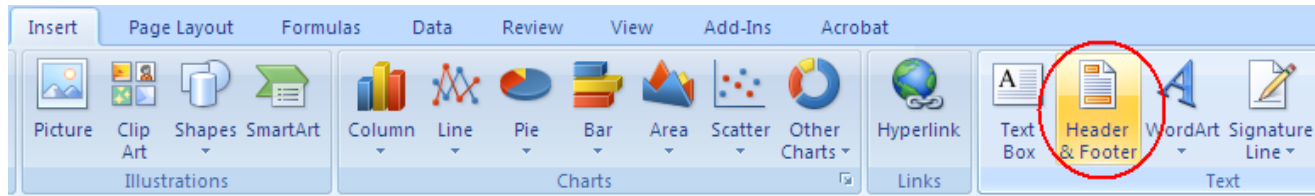
- Type in a header in the Header box.
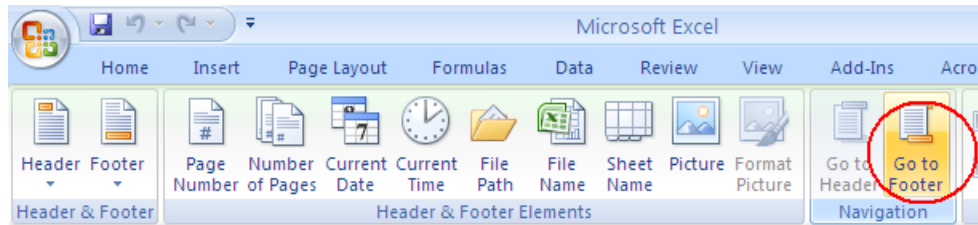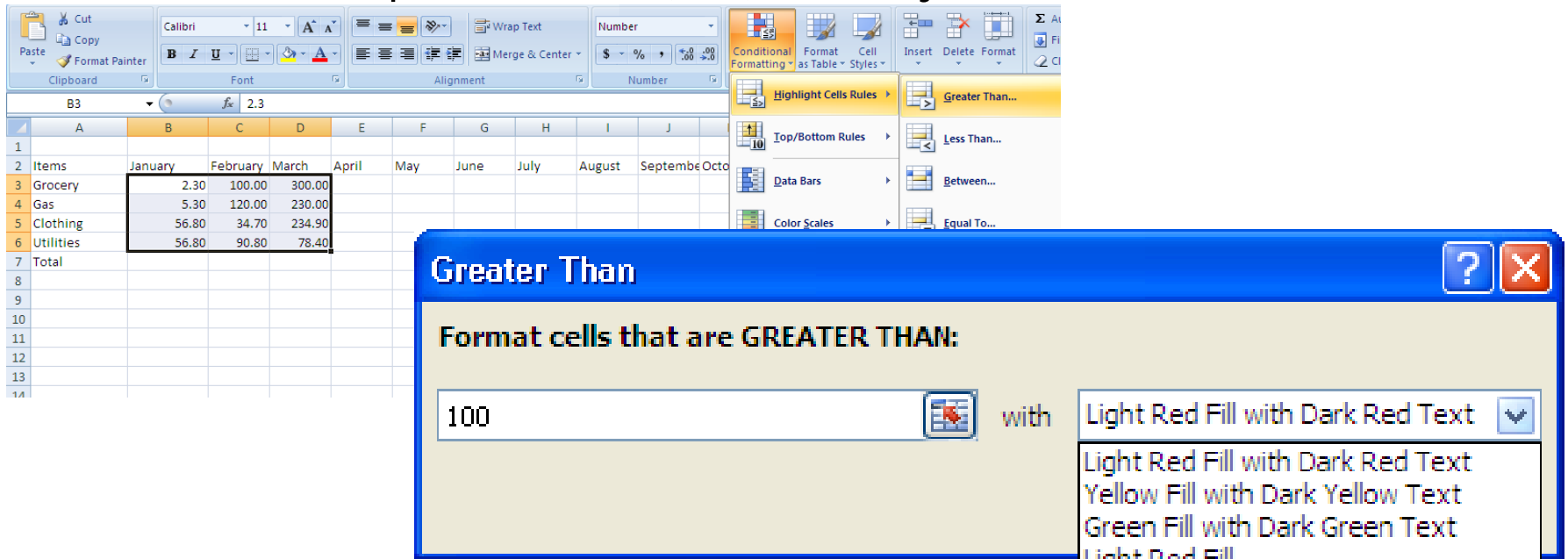
- Click on **Go to Footer** icon. Click on **File Name** icon to insert the file name in the Footer box.
- To go back to the Normal view of the spreadsheet, click on **View** tab and select **Normal**.
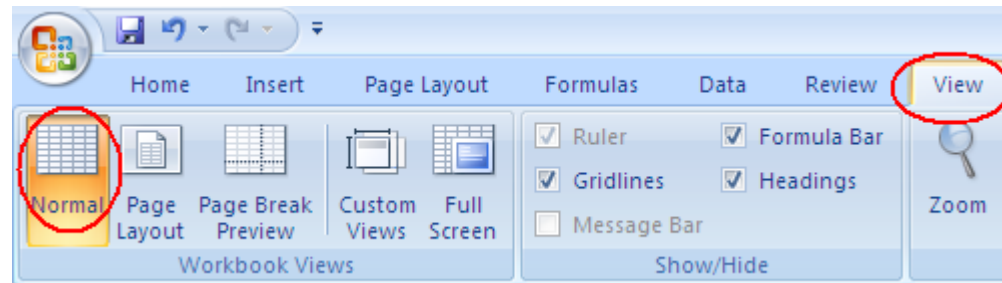
Conditional Formatting

- Format cells based on a condition
  - Red font for expenses that exceed $100.
  - Highlight the cells you would like to apply a conditional formatting rule.
  - In **Home** tab, select **Conditional Formatting**. Select **Highlight Cell Rules** and **Greater Than**.
  - Select a cut point number (100) and a style of text.

# Conditional Formatting

- Explore more conditions
  - Top/Bottom Rules: Top 10, Above Average
  - Data columns
  - Formatting Styles
  - Color Scale
  - Data Set
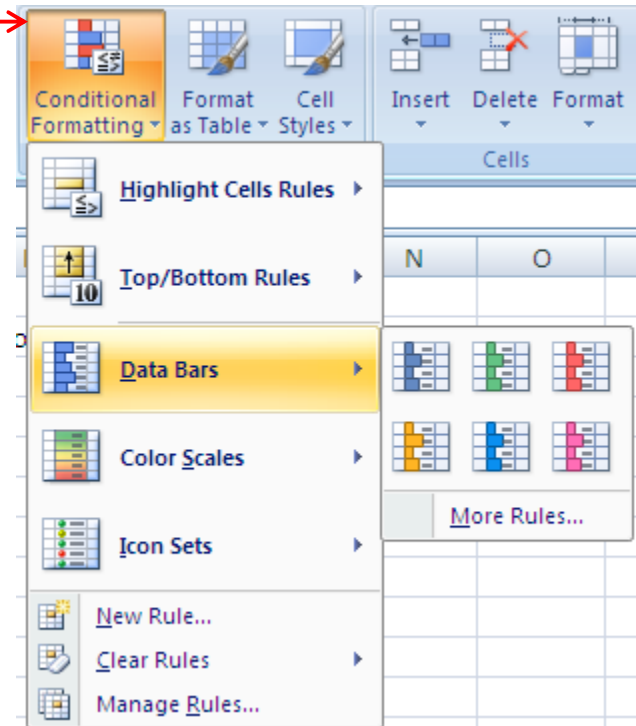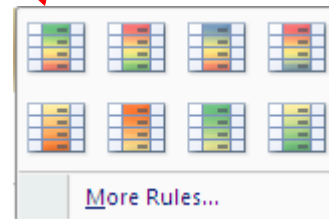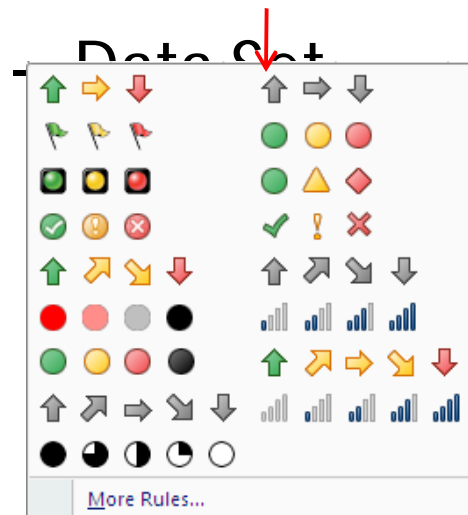
Basic Calculating Functions – Total, Average

- Excel has mathematical functions for you to use.
  - **Total**
    - Click on the Cell that displays a total.
    - In **Home** tab, click on the sum function icon.
    - Highlight the cells included in the total and hit Enter key.
  - **Average**
    - Click on the cell that displays an average.
    - In **Home** tab, click on the little down arrow in the sum function icon and select **Average**.
    - Highlight the cells included in the average and hit Enter key.
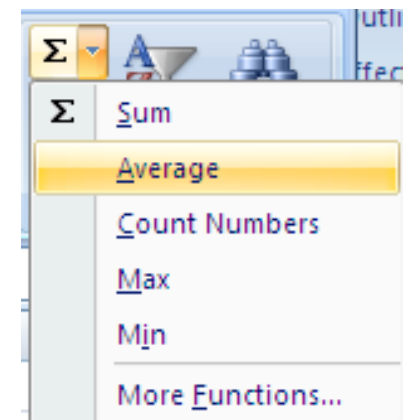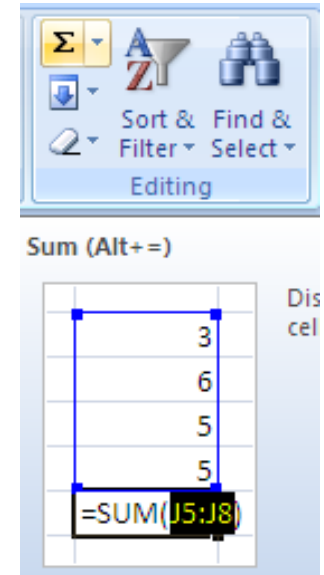
Creating Basic Formula

- You conduct a mathematical calculation in Excel by typing a simple formula into a cell. An Excel formula always begins with an equal sign (=).
- Math **operators**
  - Addition: +
  - Subtraction:-
  - Multiplication:*
  - Division:/
- Example: Gas + Utilities
  - Click on the cell that displays the expense of Gas and Utilities.
  - Enter =.
  - Click on the Gas cell for January.
  - Enter +.
  - Click on the Utilities cell for January
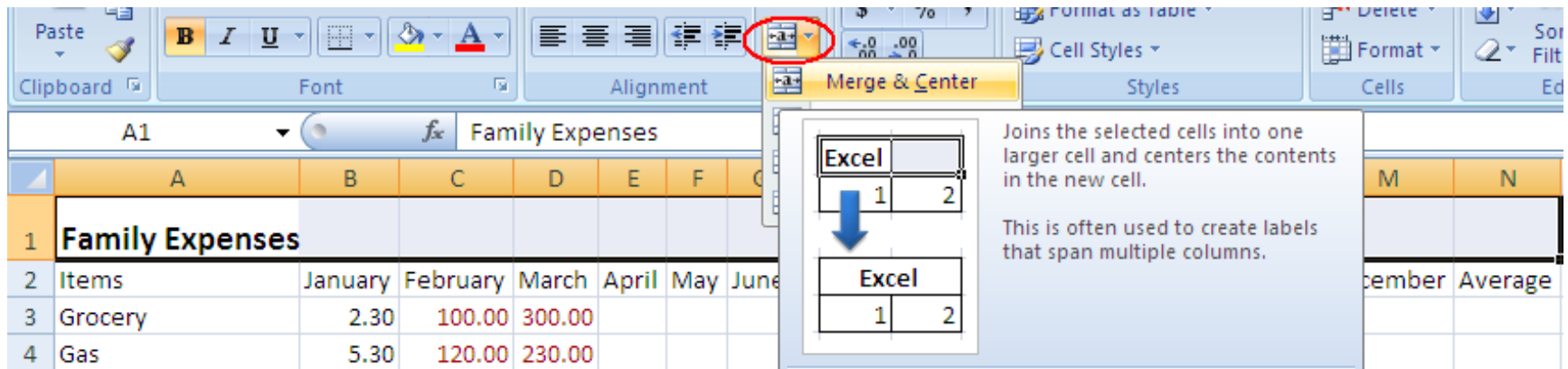 - Hit Enter key.

Copy a Formula

- You may copy the same formula onto a series of cells.
  - Example, a total expense in each of all 12 months.
  - Select the total cell for January.
  - Drag the bottom right corner of the cell to expand to the December total cell.
  - The total expense is then calculated for all 12 months.

•Practice
•Total for each of the categories

	B9		f_x	=SUM(B3:B8)
	A	B	C	D
1				
2	Items	January	February	March A
3	Grocery	2.30	100.00	300.00
4	Gas	5.30	120.00	230.00
5	Clothing	56.80	34.70	234.90
6	Utilities	56.80	90.80	78.40
7				
8				
9	Total	121.20	345.50	843.30

Merge and Center

- You may want to add a title for an Excel table.

- Insert a row above the column heading row.

- Type the title in the first cell of the title row.

- Highlight the cells you would like to display the table title.

- Click on **Merge and Center** icon.

Print an Excel Sh

- As default, there are no borders around cells.
- For printing, there are two ways to print boarders around cells.
  - Gridlines: This way adds gridlines around the cells in the table.
    - Click on **Page Layout** tab.
    - Click on **Page Setup** group.
    - Click on **Sheet** tab.
    - Check **Gridlines**. Click on **OK**.
  - Add borders: This way adds borders around the cells you selected.
    - Highlight the cells you want to have borders.
    - In **Home** tab, click on the down arrow next to the border icon and select a choice of borders.
    - You have flexibility of selecting a variety of borders.
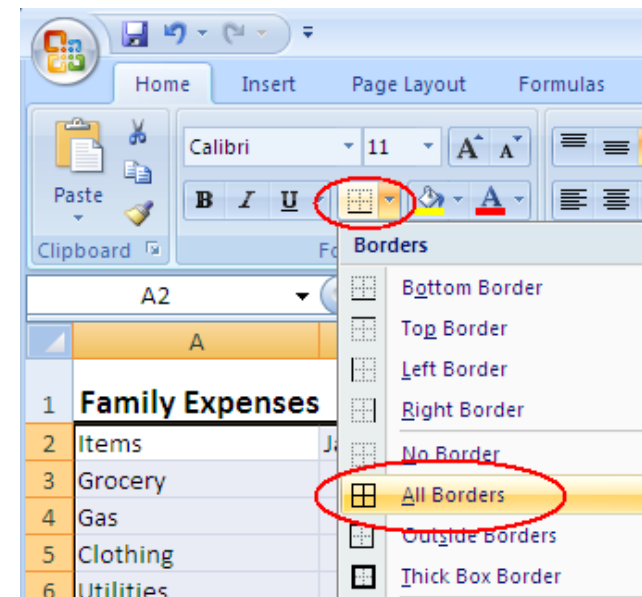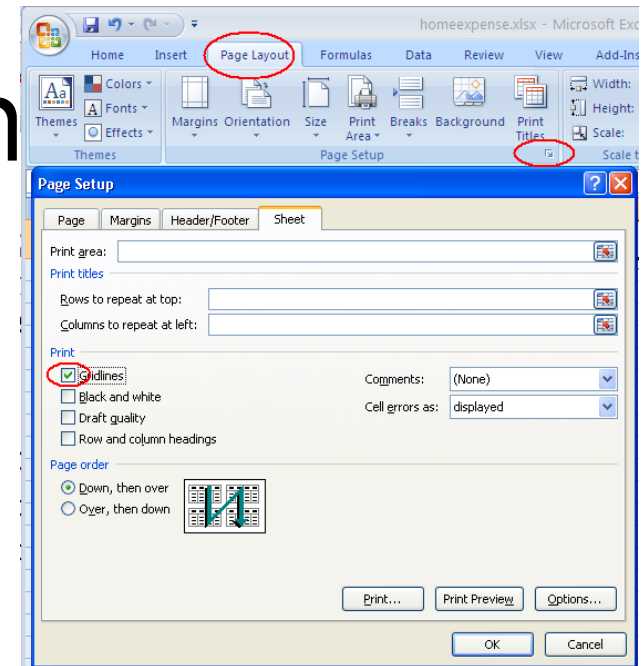
Page Layout

- **Orientation**
  - The vertical dotted line specifies the right border of a page in a spreadsheet.
  - You may change the page orientation from Portrait to Landscape. Go to **Page Layout** tab, click on the **Orientation** icon and select **Landscape**.
  - You may adjust the width of columns to fit the columns into a page.
    - Double click on the border between the titles of two columns to automatically adjust the column width.
    - Drag the border between the titles of two columns to adjust the column width.

- **Margins**
  - To adjust the margins of a page, in Page Layout tab, click on Margins icon and select Custom Margins. Change margins and click on OK.
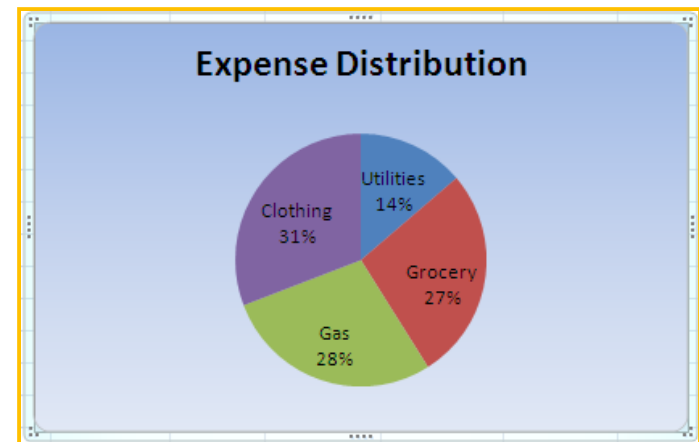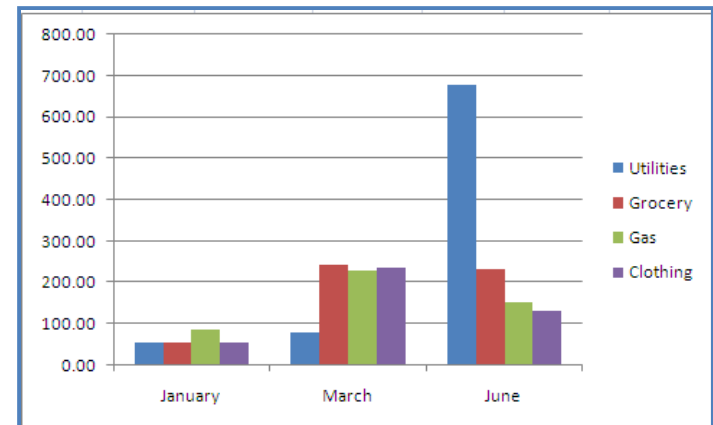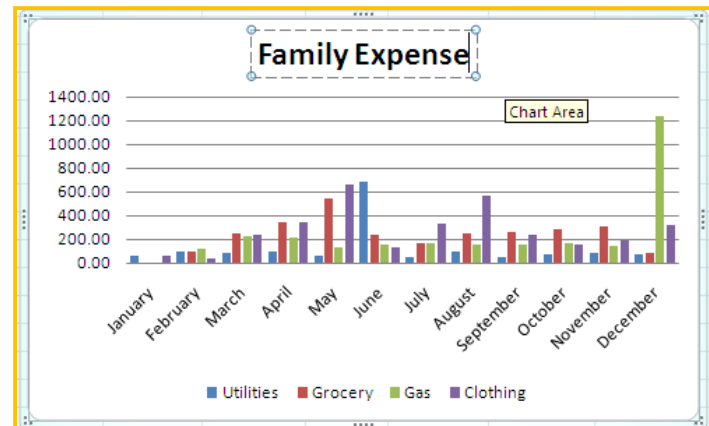
- **Sheet Name**
 - To give a name of a sheet, double-click on the sheet tab and enter the name.
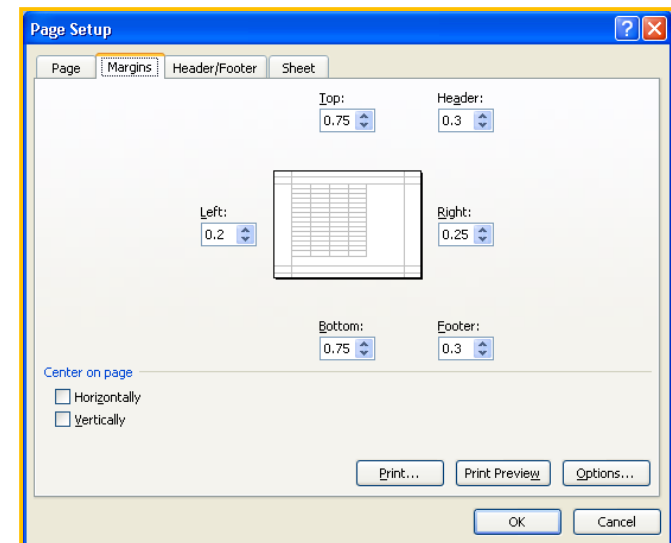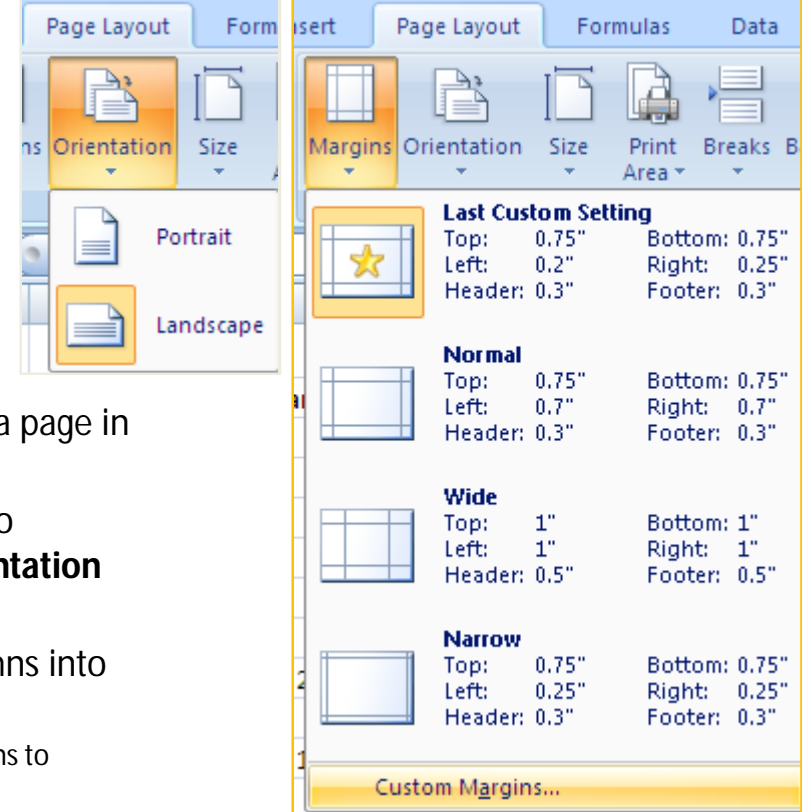
Column and Pie Chart

- A column chart to show monthly expenses.

- A column chart to show the comparison of expenses in selected months.

- A pie chart to see the percentage/amount of each expense category.

Column Chart -Monthly Expense

- Highlight the expenses with the headings of 12 months.
- Click on **Insert** tab.
- Click on the arrow in **Columns** icon in **Charts** group.
- Select a column chart.
- To enter a title for the chart, choose a chart layout in **Chart Layouts** group. click on the Title Box and type a title.
- You may change a layout or a style of the chart by selecting a style or a layout.
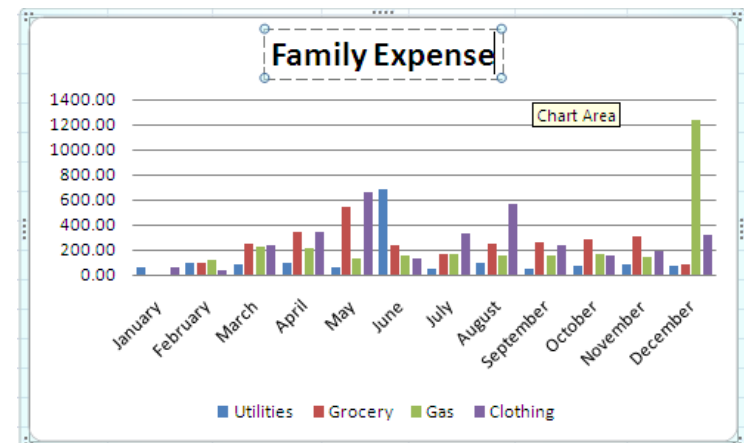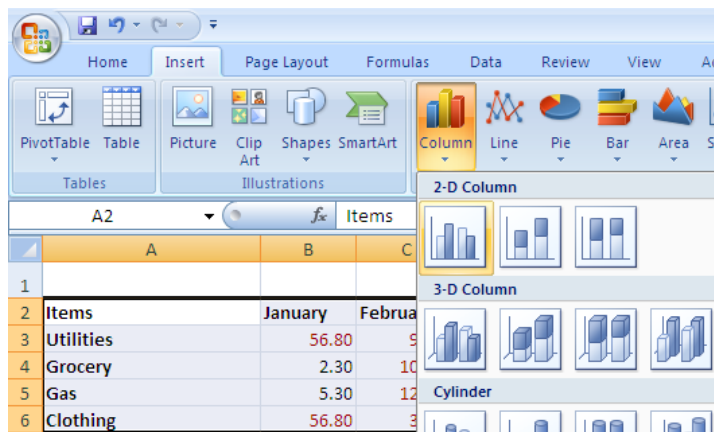
Column Chart - Expense Comparison

- Display expense comparisons among January, March, and June.
- Four columns: Items, January, March, and June. Use "ctrl" key to select multiple columns.
- Go to **Insert** tab and select a column chart under **Column** chart icon.
- Click on **Switch Row/Column** icon to change the comparison: comparison among months' categories.
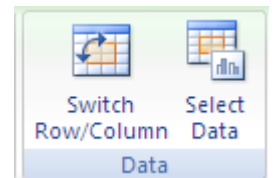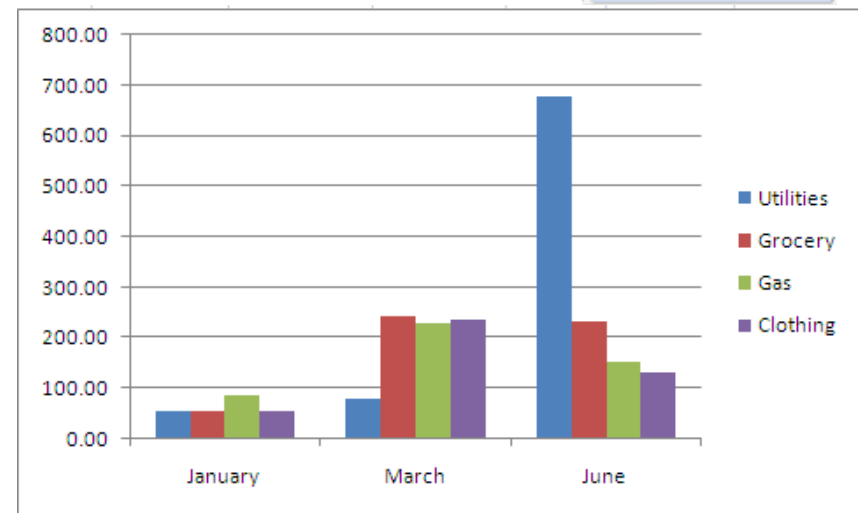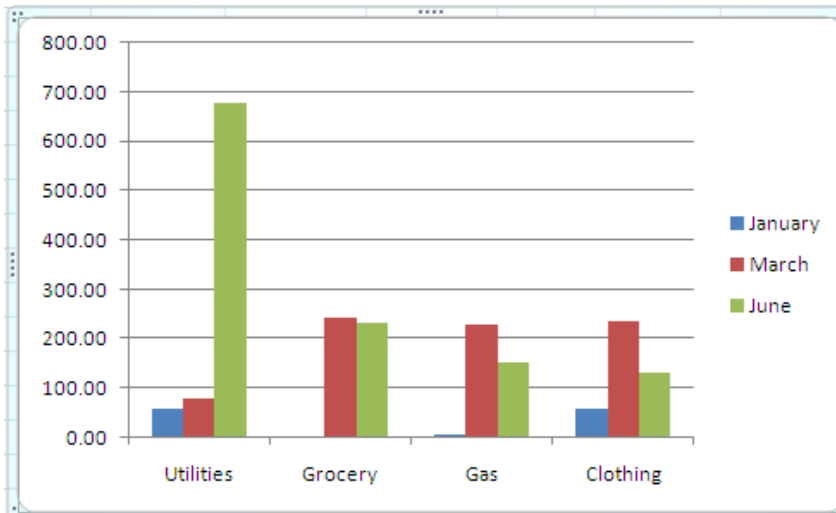
Pie Chart - Expense Distribution

- Highlight the Items column and the Total Expense Column (ctrl).

- Go to **Insert** tab.

- Select a **Pie** chart in **Pie** icon.

- To show a percentage, click on the first icon in **Chart Layouts** group.
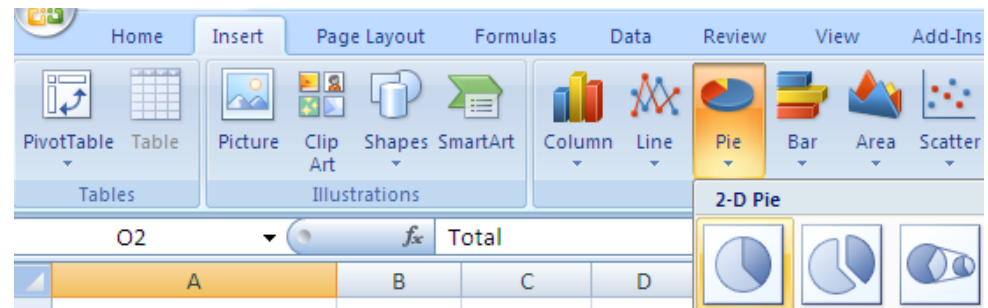
Pie Chart - Format

- To add a title for the pie chart, choose a layout with a title box, click on the title box, and type the title.
- Add background for the chart: Right-click on the chart and select **Format Chart Area**....
  - Select a Fill style, border color, border style, etc. Click on **Close**.
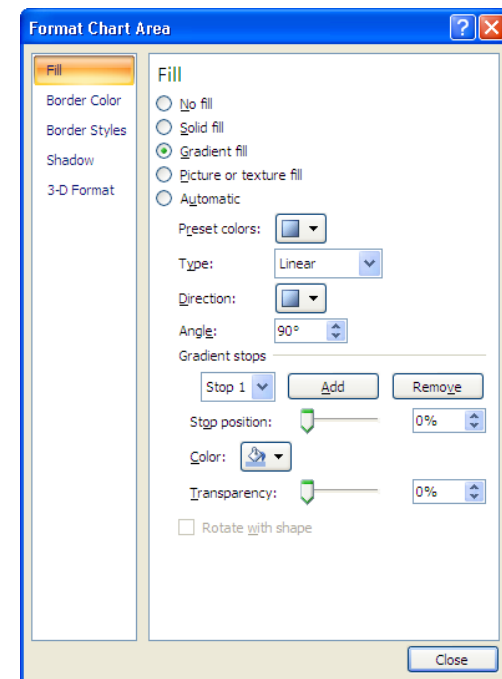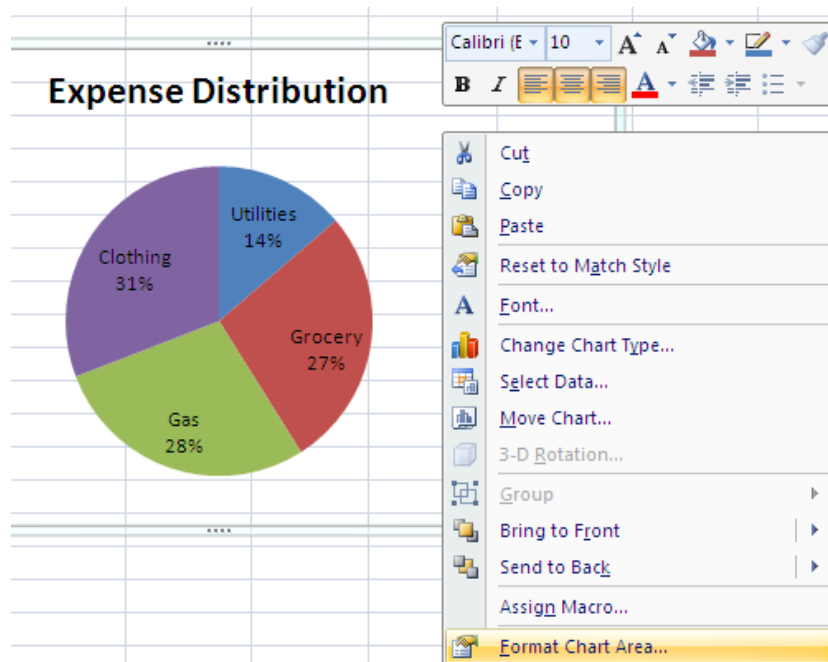
Key Steps in Charting

- Create the columns/rows that have the data you need to draw a chart.

- Select the columns/rows needed.

  - Hold "ctrl" key to select non-continuous columns.

  - Hold "shift" key to select continuous columns.

- Select a chart type in **Insert** tab.

- Enter **Chart** title.

- Select a style of a chart.