



This is “Microsoft Excel Techniques”, chapter 16 from the book [Designing Business Information Systems: Apps, Websites, and More \(index.html\)](#) (v. 1.0).

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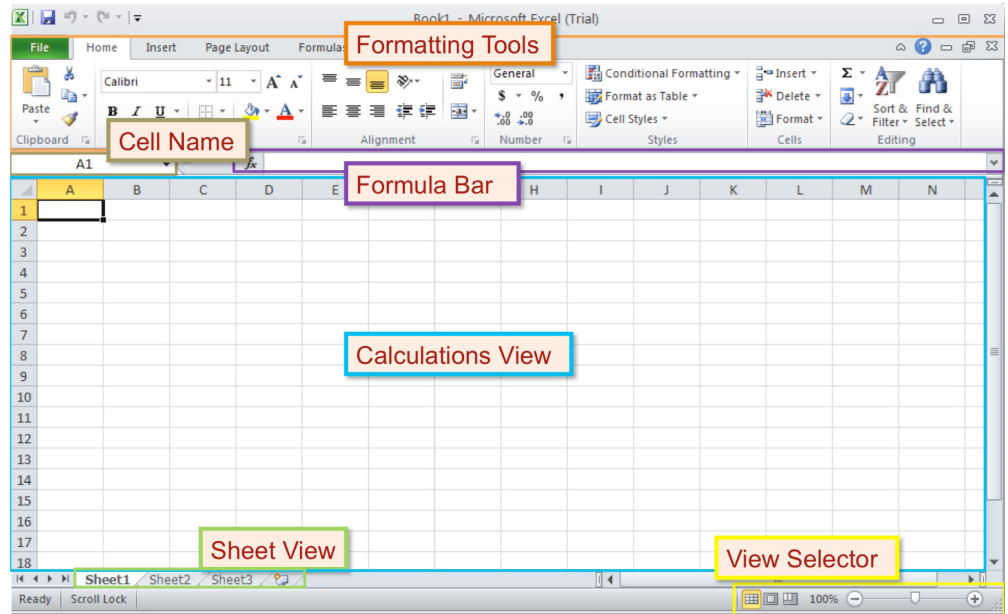
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# Chapter 16

## Microsoft Excel Techniques



**Overview Map of Interface**—Reference this map to navigate the Excel interface.

### Best Practice Formatting - Scatterplot

**Start with Choosing a Layout.** The order of the techniques is not critical.

**Choose a Layout**  
Chart Design ribbon > Chart Layouts > Layout 1

**Rename the Chart and Axes Titles**  
Click on the current name and type new name.

**Add Major Gridlines**  
Chart Layout ribbon > Axes tab > Gridlines > Primary Vertical Gridlines > Major Gridlines

**Format Plot Area**  
Right click in the plot area and select Format Plot Area. Then choose a Solid 50% Gray Border.

**Cite Source and Preparer**  
Chart Layout ribbon > Insert tab > Text Box.  
Add a source citation and "Prepared By:" in the bottom-left corner.

**Add Data Labels**  
Select one bar by clicking once to select the entire series and then clicking the desired bar again. Right click the bar and select Add Data Label.  
Double click the data labels and remove the text. Type in appropriate labels to identify each series.

**Delete the Legend**  
Click on the legend to select it and press the Delete key.

**Format Axes**  
Right click the Axis and select Format Axis.

Years of Education	Male Income	Female Income
10	\$25,000	\$15,000
12	\$35,000	\$25,000
14	\$45,000	\$35,000
16	\$55,000	\$45,000
18	\$70,000	\$55,000
20	\$100,000	\$65,000

### Best Practice Formatting - Bar Graphs

**Start with Choosing a Layout.** The order of the techniques is not critical.

**Choose a Layout**  
Chart Design ribbon > Chart Layout tab > select Layout 8

**Rename the Chart and Axis Titles**  
Click on the current title and delete or type over current name.

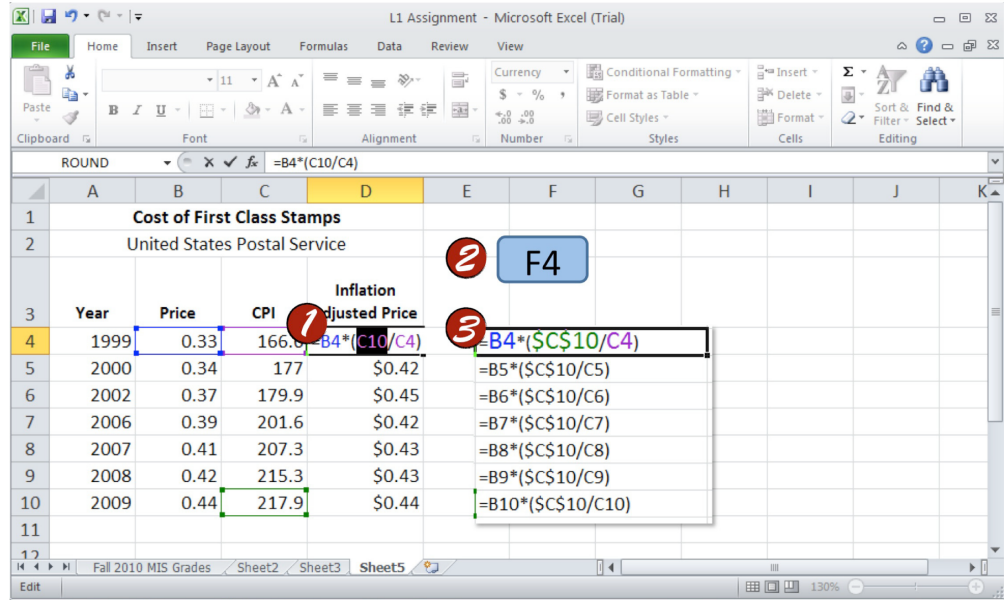
**Format Plot Area**  
Right click in the plot area and select Format Plot Area. Then choose a Solid 50% Gray Border.

**Cite Source and Preparer**  
Chart Layout ribbon > Text Box.  
Add a source citation and "Prepared By:" in the bottom-left corner.

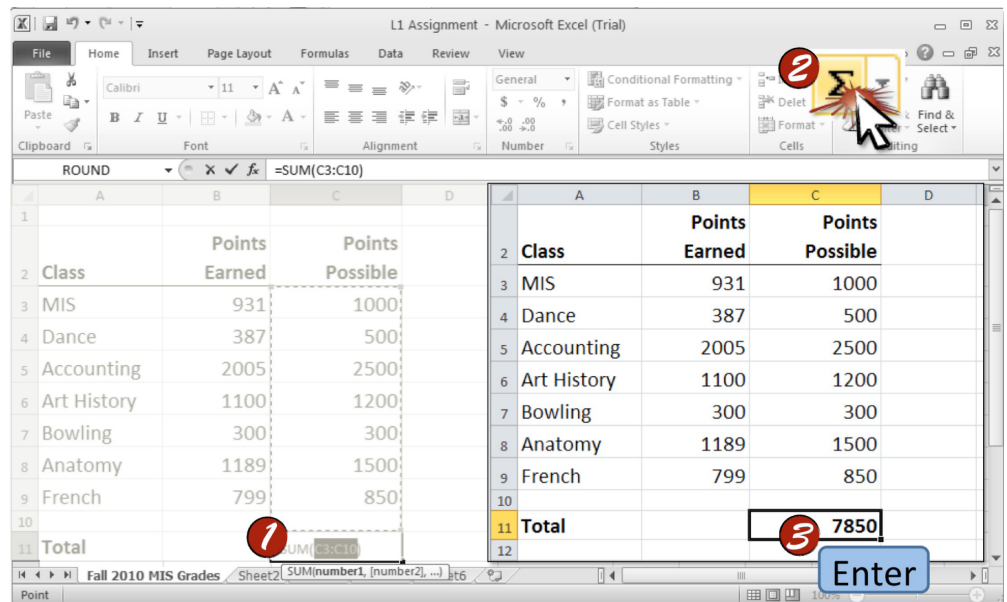
**Add Data Labels**  
Select one bar by clicking once to select the entire series and then clicking the desired bar again. Right click the bar and select Add Data Label.  
Double click the data labels and remove the text. Type in appropriate labels to identify each series.

**Delete the Legend**  
Click on the legend to select it and press the Delete key.

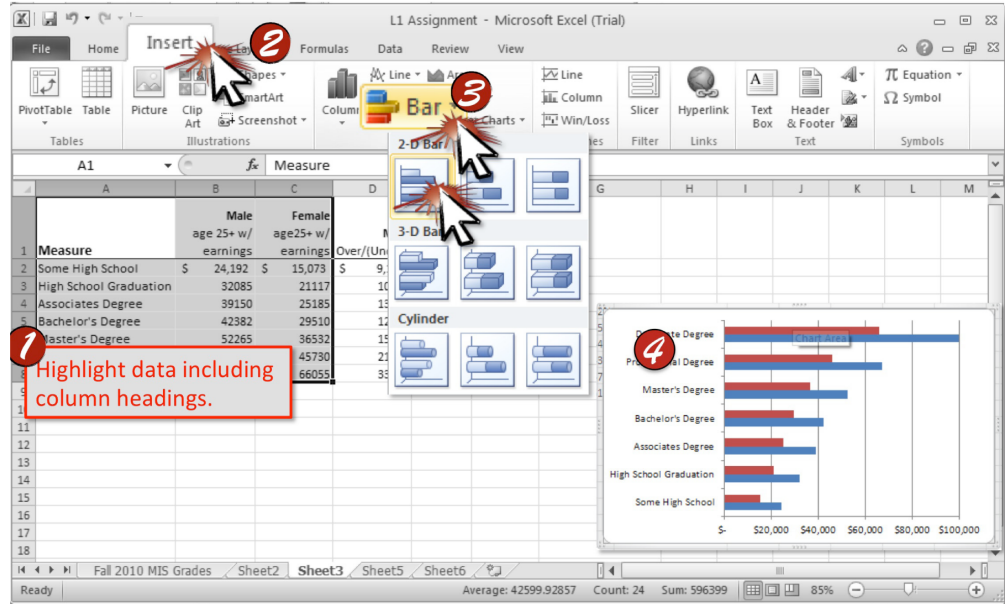
Level of Education	Male Income	Female Income
Doctorate degree	\$100,000	\$85,000
Professional degree	\$95,000	\$75,000
Master's degree	\$70,000	\$55,000
Bachelor's degree	\$55,000	\$45,000
Associate degree	\$45,000	\$35,000
Some college	\$35,000	\$25,000
High school graduate	\$30,000	\$20,000
Some High School	\$20,000	\$15,000



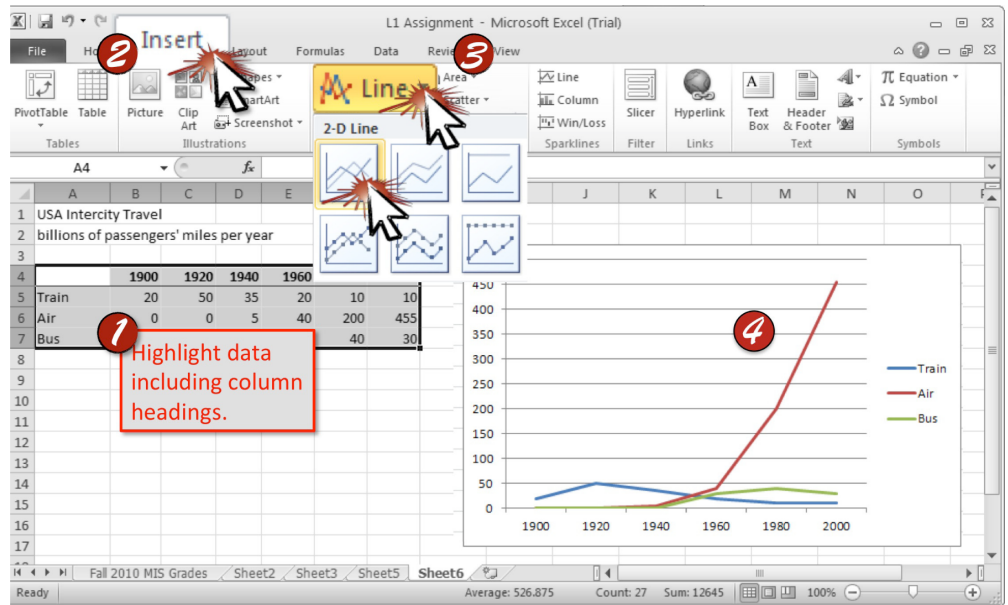
**Absolute Reference**—Maintain your reference to a specific cell in a formula that is copied to other cells. Without making an absolute reference, the formula will use the content of the adjacent cell in its calculation.



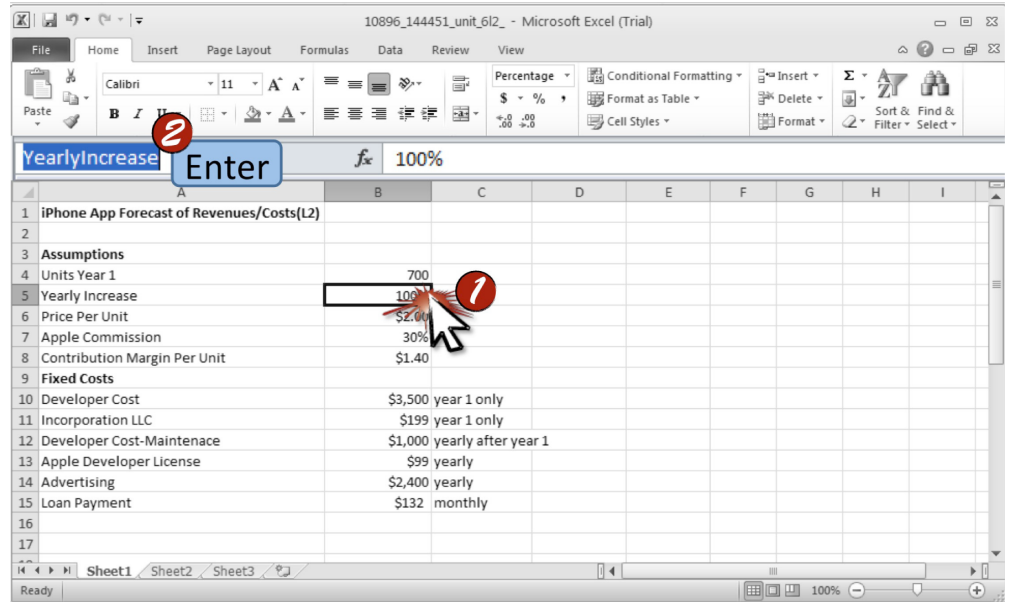
**AutoSum**—Use this function to automatically find the total of the cells you indicate. The total will automatically update if the values within the cells are changed.



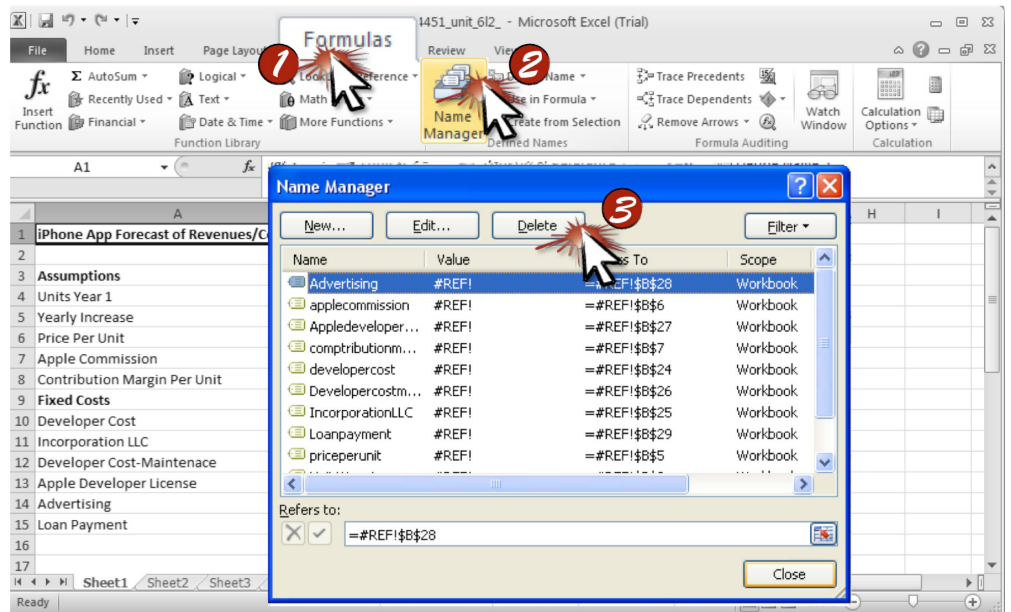
**Bar Graph-Multi-Series**—Visually display your data for easier and more dramatic understanding. Bar graphs are used to compare categorical information between different groups.



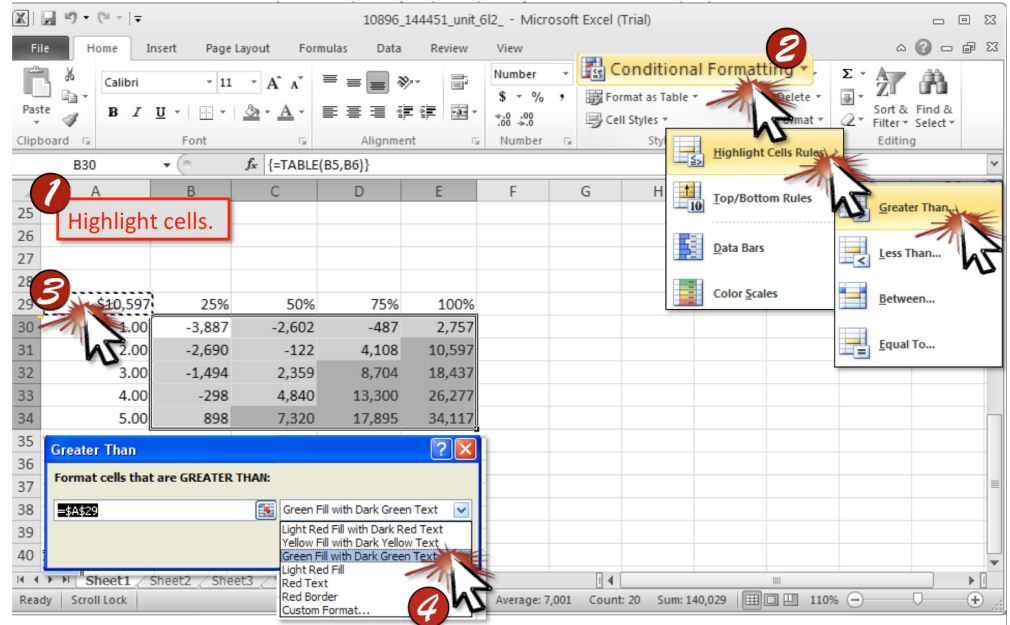
**Time Series Graph**--Visually display your data for easier and more dramatic understanding. Time series graphs are used to compare data over time.



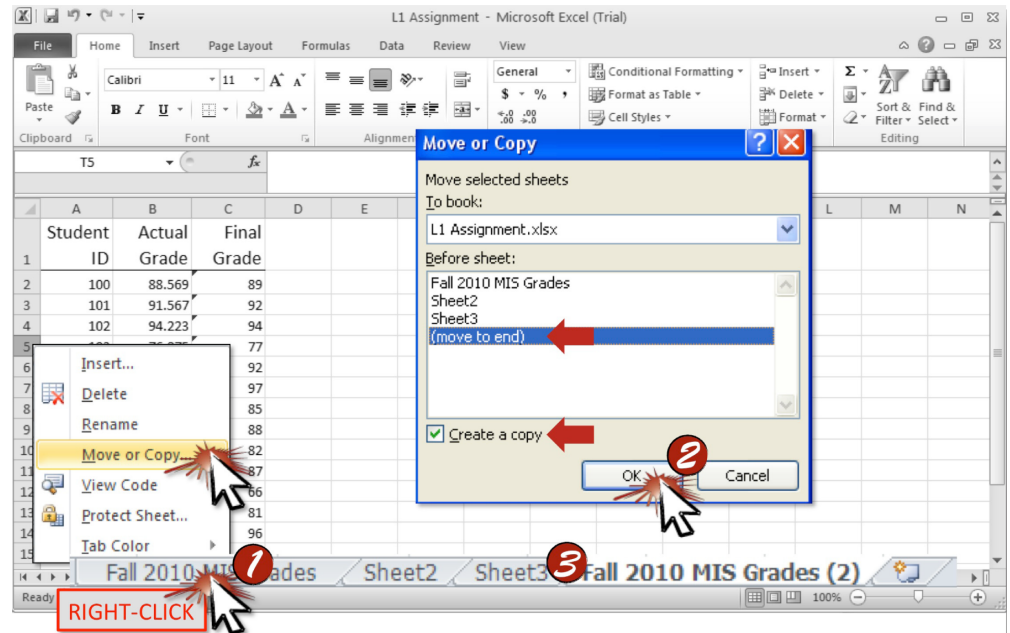
**Cell Name-Create**—Give a specific cell a unique name. You can reference this cell by its name in formulas in other areas of the spreadsheet. Named cells function as absolute references when copied—they don't change.



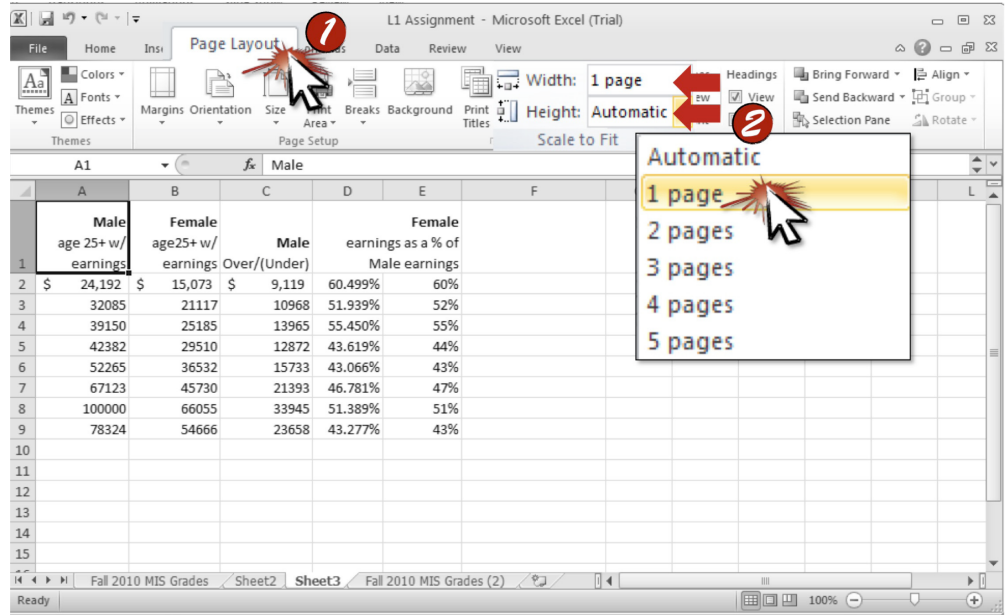
**Cell Name-Delete**—Remove the name you gave a specific cell. Delete a cell name if you are rearranging your spreadsheet or no longer are referencing that cell.



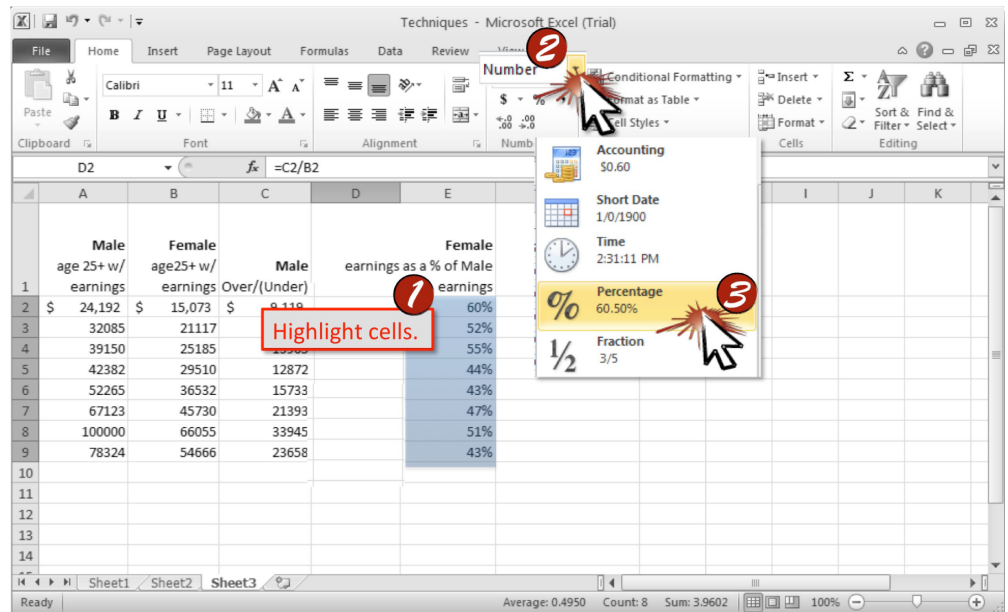
**Conditional Formatting**—Use this tool to display your information in a visual way. Set formatting rules to emphasize your main point.



**Duplicate Sheet**—Make a copy of your document. Duplicate a sheet if you want identical data on a separate worksheet in the same Excel file.

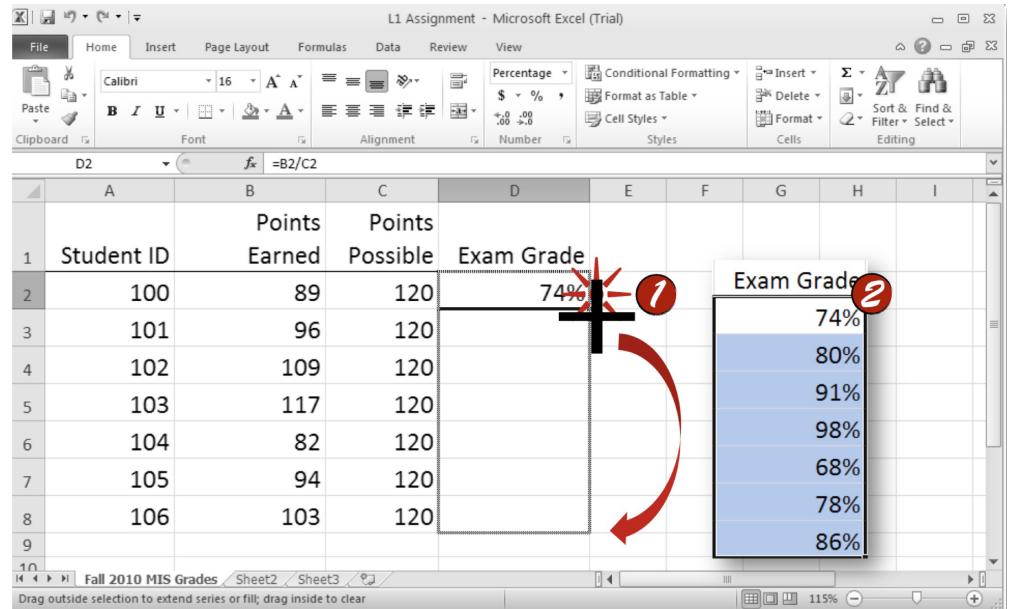


**Fit to One Page**—Use this feature to have Excel resize your spreadsheet to fit to the width of a single page. In this example the height is left automatic to allow multiple pages. Fit to one page avoids cutting off columns.

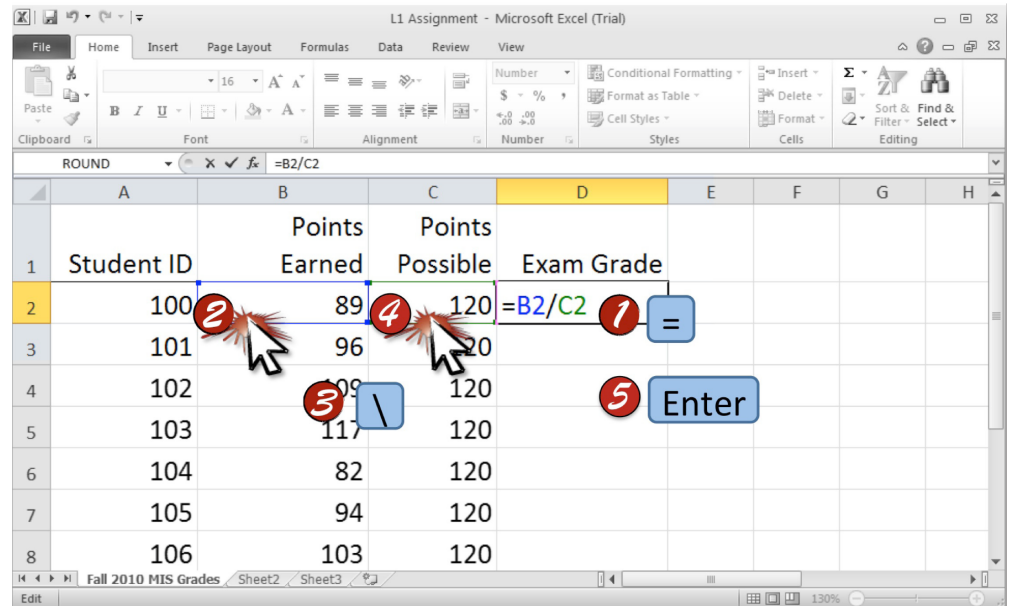


**Format Number**—Use this to designate what type of numbers the spreadsheet is maintaining. Format your numbers to options like currency, percentages, date, time, and so forth.

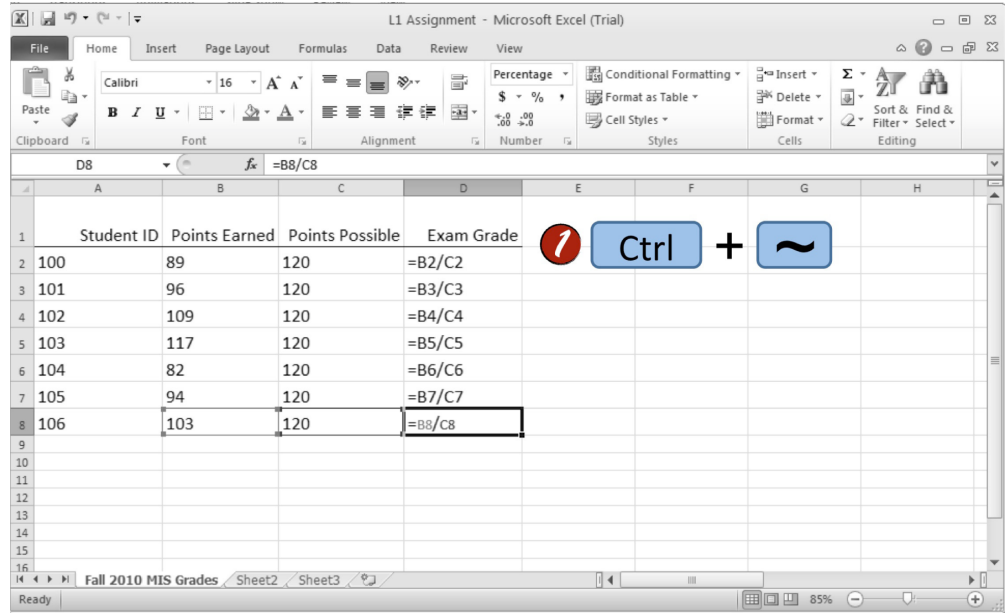




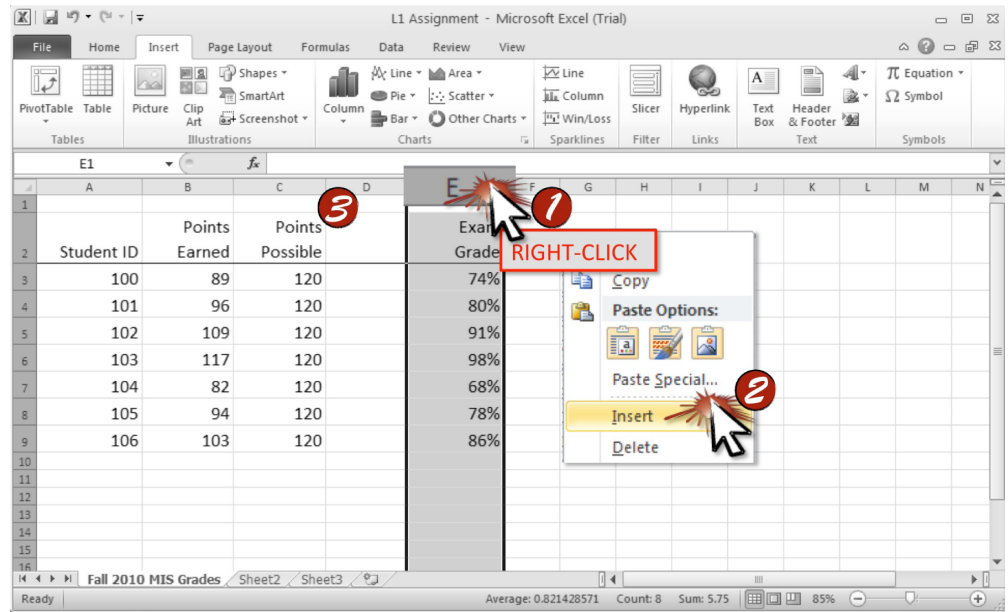
**Formula-Copy**—Use the same formula for a series of adjacent cells in a spreadsheet. This will save you time and ensure that the formulas are consistent.



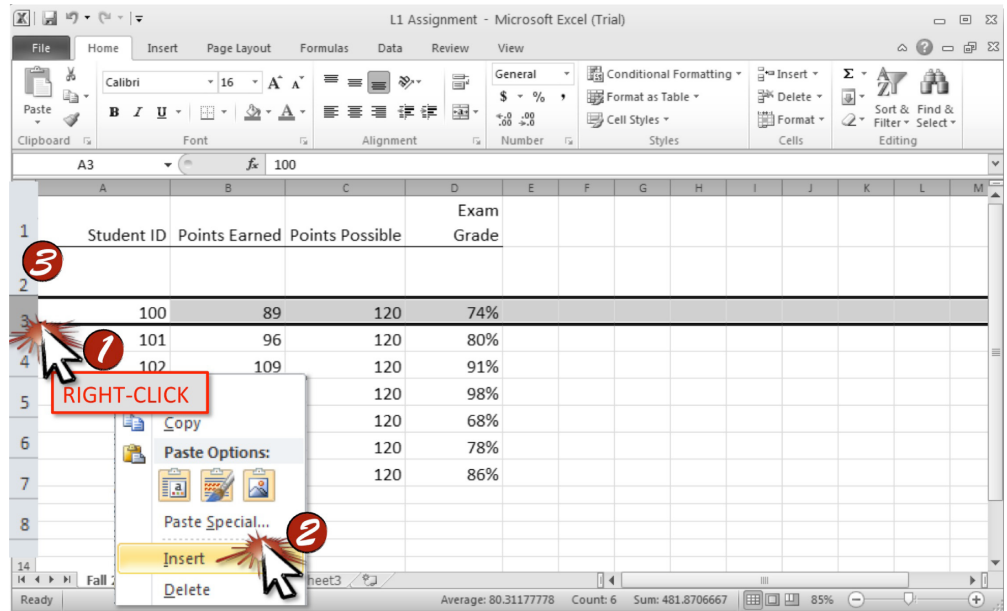
**Formula-Create**—Use formulas to complete simple to complex mathematic functions throughout your spreadsheet. Always begin a formula with the “=” sign. Link to an existing cell simply by clicking it while constructing a formula.



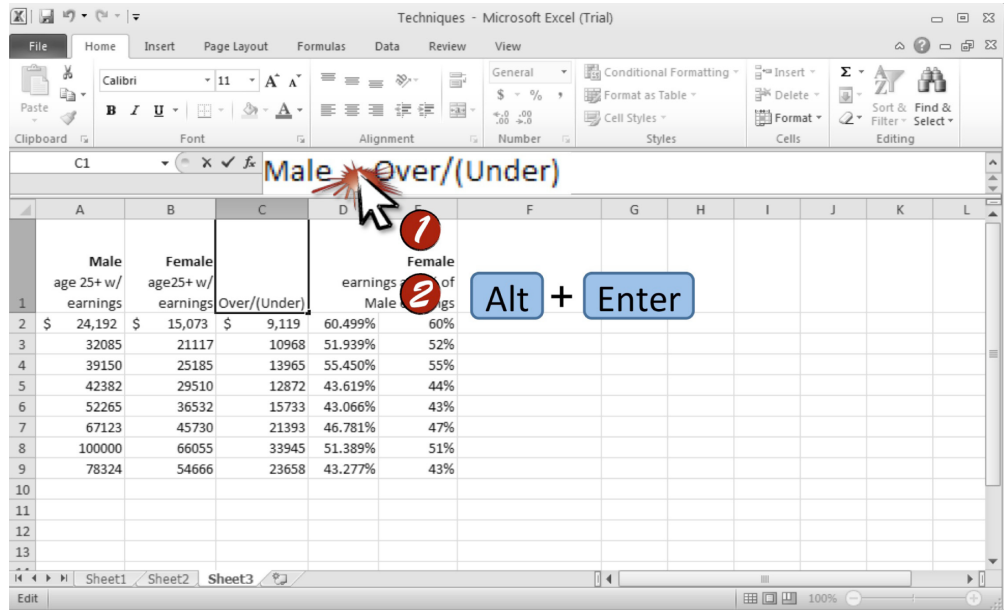
**Formula Mode**—View your spreadsheet in this mode to see the formulas each cell contains. This mode can help you see relationships between cells and can help you find errors in your formulas.



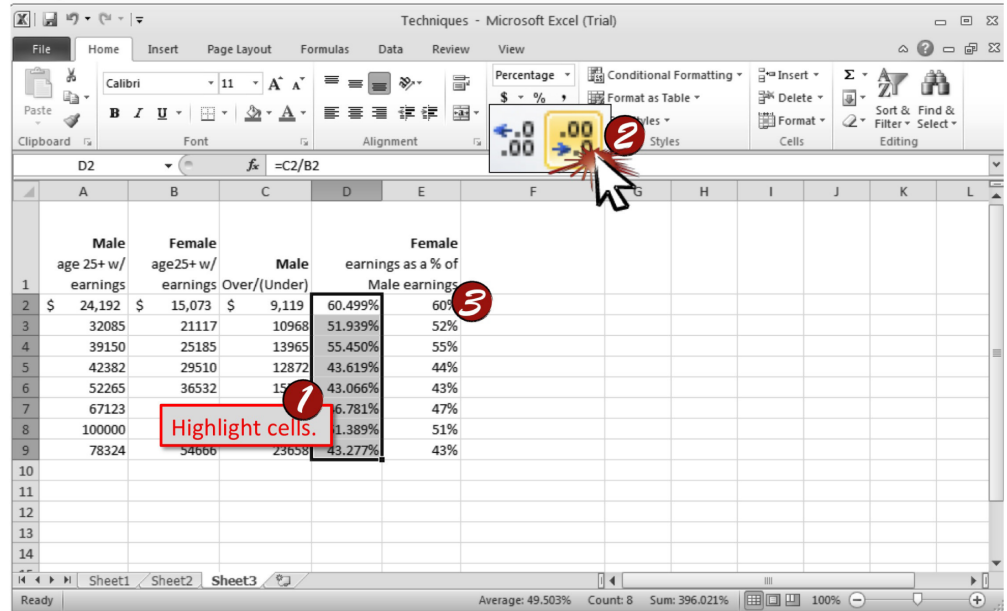
**Insert Column**—Place an additional vertical column to your spreadsheet. The column appears to the left of the selected column by default.



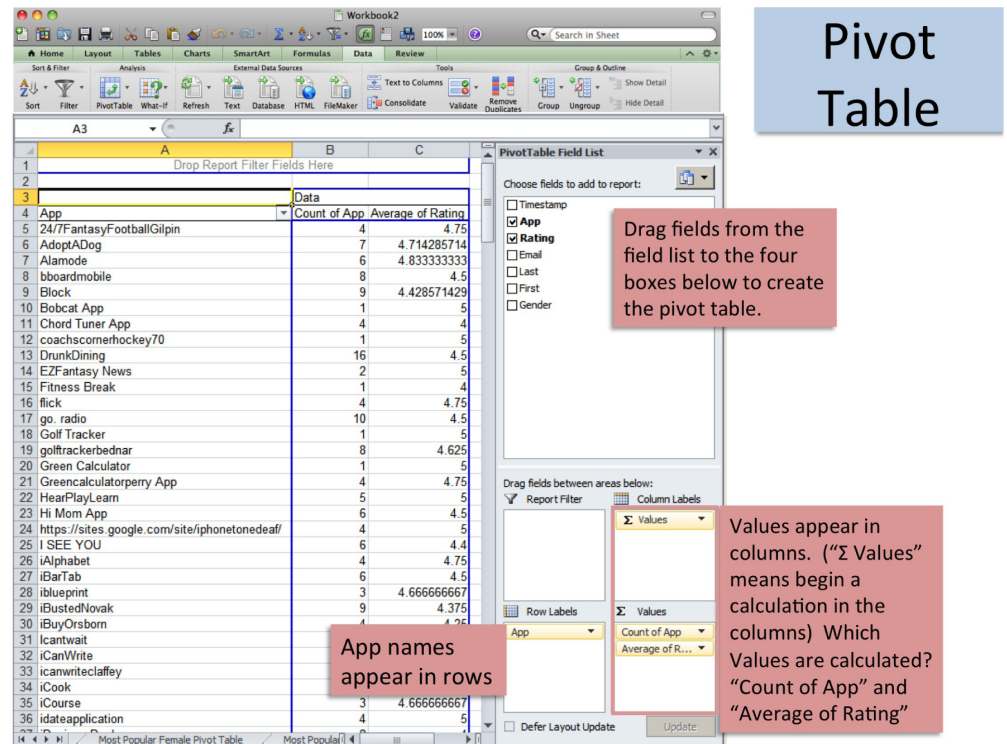
**Insert Row**—Place an additional horizontal column to your spreadsheet. The column appears above the selected row by default.



**Line Break within a Cell**—Force a line break in a cell to organize text. Follow this key stroke to move to the next line, simply striking “Enter” will move you to a separate cell.



**Move Decimal Point**—Display more digits following the decimal point. In business, rarely show more than two decimal points. Avoid decimal points for numbers greater than 100.



## Pivot Table

Drag fields from the field list to the four boxes below to create the pivot table.

App names appear in rows

Values appear in columns. ("Σ Values" means begin a calculation in the columns) Which values are calculated? "Count of App" and "Average of Rating"

## Pivot Table Graph

App	Count of App	Average of Rating
24/7FantasyFootballGipin	4	4.75
AdoptADog	7	4.714285714
Alamode	6	4.833333333
bboardmobile	8	4.5
Block	9	4.428571429
Bobcat App	1	5
Chord Tuner App	4	4
coachscomerhockey70	1	5
DrunkDining	16	4.5
EZFantasy News	2	5
Fitness Break	1	4
Rick	4	4.75
go. radio	10	4.5
Golf Tracker	1	5
goltrackerbednar	8	4.625
Green Calculator	1	5
Greencalculatorperry App	4	4.75
HeartPlayLearn	5	5
Hi Mom App	6	4.5
https://sites.google.com/site/phonetodeaf/	4	5
I SEE YOU	6	4.4
iAlphabet	4	4.75
iBarTab	6	4.5
blueprint	3	4.666666667
EustedNovak	9	4.375
EuyOrsbom	4	4.25
Icantwait	7	5
iCanWrite	1	4
icanwriteclafey	1	5
Cook	10	4.7
Course	3	4.666666667
idateapplication	4	5
DesignerDeals	2	4
Dine	11	4.363636364
iDont	5	4.6
idream	19	4.611111111
Drive4FunNavigation	4	4.5
FFN	1	3

Must copy and paste VALUES to create a scatterplot, because Excel does not allow a scatterplot from Pivot table data.

Follow scatterplot formatting from book then add a trendline and explain the trend.

Techniques - Microsoft Excel (Trial)

File Home Insert Page Layout Formulas Review View

AutoSum Logical Lookup & Reference Define Name Trace Precedents Trace Dependents Watch Window Calculation Options

Insert Function Financial Date & Time Function Library

Math & Trig

Formulas

Use in Formula Create from Selection Defined Names Formula Auditing Calculation

C2 =ROUND(B2:B11,0)

Student ID	Actual Grade	Final Grade
100	88.569	89
101	91.567	92
102	94.223	94
103	76.875	77
104	92.454	92
105	97.011	97
106	85.337	85
107	87.678	88
108	81.861	82
109	87.259	87

Function Arguments

ROUND

Number: B2:B11 = 88.569

Num\_digits: 0 = 0

Rounds a number to a specified number of digits.

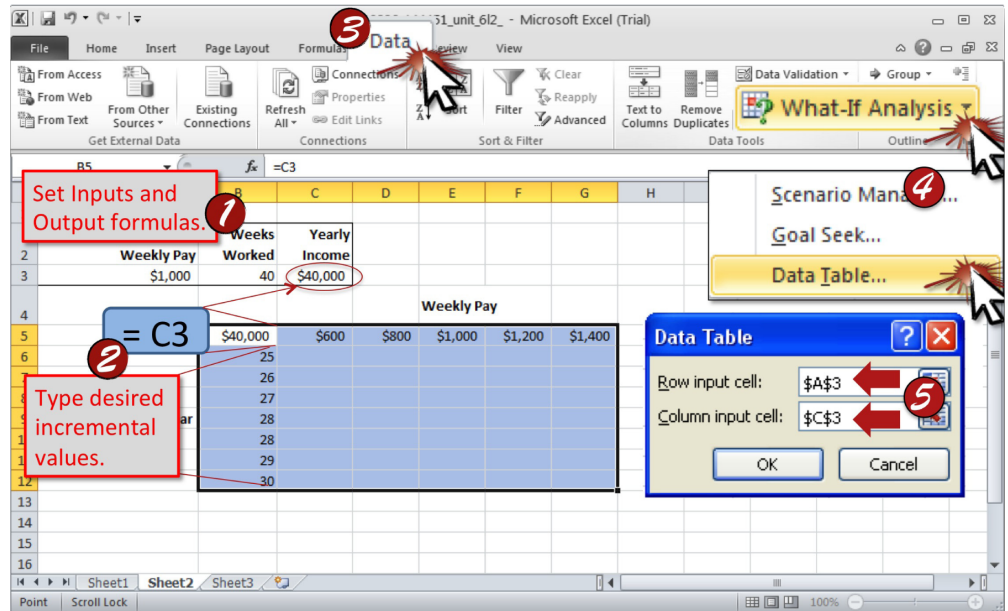
Num\_digits is the number of digits to which you want to round. Negative rounds to the left of the decimal point; zero to the nearest integer.

Formula result = 89

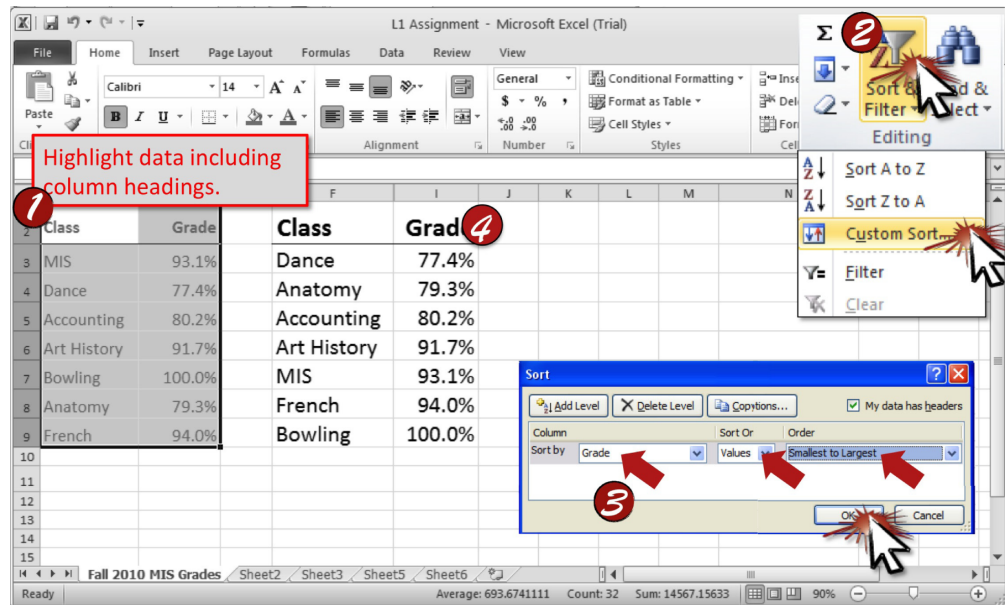
Help on this function

OK Cancel

**Round Number**—Format your cells to automatically round your numbers to your specific settings. You can round numbers up, down, and to your desired number of digits.



**Sensitivity Analysis**—Use this feature to show the various output values achieved by combining incremental values of two inputs. This analysis will support decision-making and the development of future actions.



**Sort Data**—Use this feature to organize your spreadsheet based on your desired field. By sorting the data, you can strengthen the impact of your message and help the reader understand more clearly.