



Microsoft®

# Office Excel. 2007

Northern New York Library Network

Workshop

[www.nnyln.org](http://www.nnyln.org)

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### Course objectives

1. Provide participants with an exploration of spreadsheet design using Microsoft Excel 2007.
2. Improve productivity through improved usage of the application.
3. Explore topics listed for the session.
4. Develop computer and spreadsheet literacy.
5. Address **your** questions and concerns.

### Schedule

9:00	Registration
9:30	Morning session
10:40	approximate break
12:00	Lunch
1:00	Afternoon session
2:00	approximate break
3:30	Dismissal

Handouts available in PDF format at  
[www.crowleycomputers.com/handout.htm](http://www.crowleycomputers.com/handout.htm).

### General session topics

#### Session I

1. What's a spreadsheet? Excel versions and alternatives
2. Application pieces & parts
3. Building a spreadsheet from scratch
  - a. Entry, editing, and basic navigation
  - b. Column and row sizing
  - c. Autofill: laziness for speed & accuracy
4. Formulas for power
  - a. Autosum and other autos...
  - b. Arithmetic
  - c. Introduction to functions
5. Format for pretty
6. Print basics & the page layout ribbon
7. A picture is worth a thousand words, so chart!

#### Session II

1. Structural overview
2. Navigate faster
3. Formulas for more power!
  - a. Basics review
  - b. Finding functions and the formulas ribbon
  - c. Relative and absolute references
4. More formatting for more readability
  - a. Conditional formatting
5. Get three dimensional with sheets
  - a. Formulas across sheets
6. Copying and moving data
  - a. Cut, copy, paste
  - b. Dragging things around
7. Databases
  - a. Sorting
  - b. Autofilter
8. Printing review

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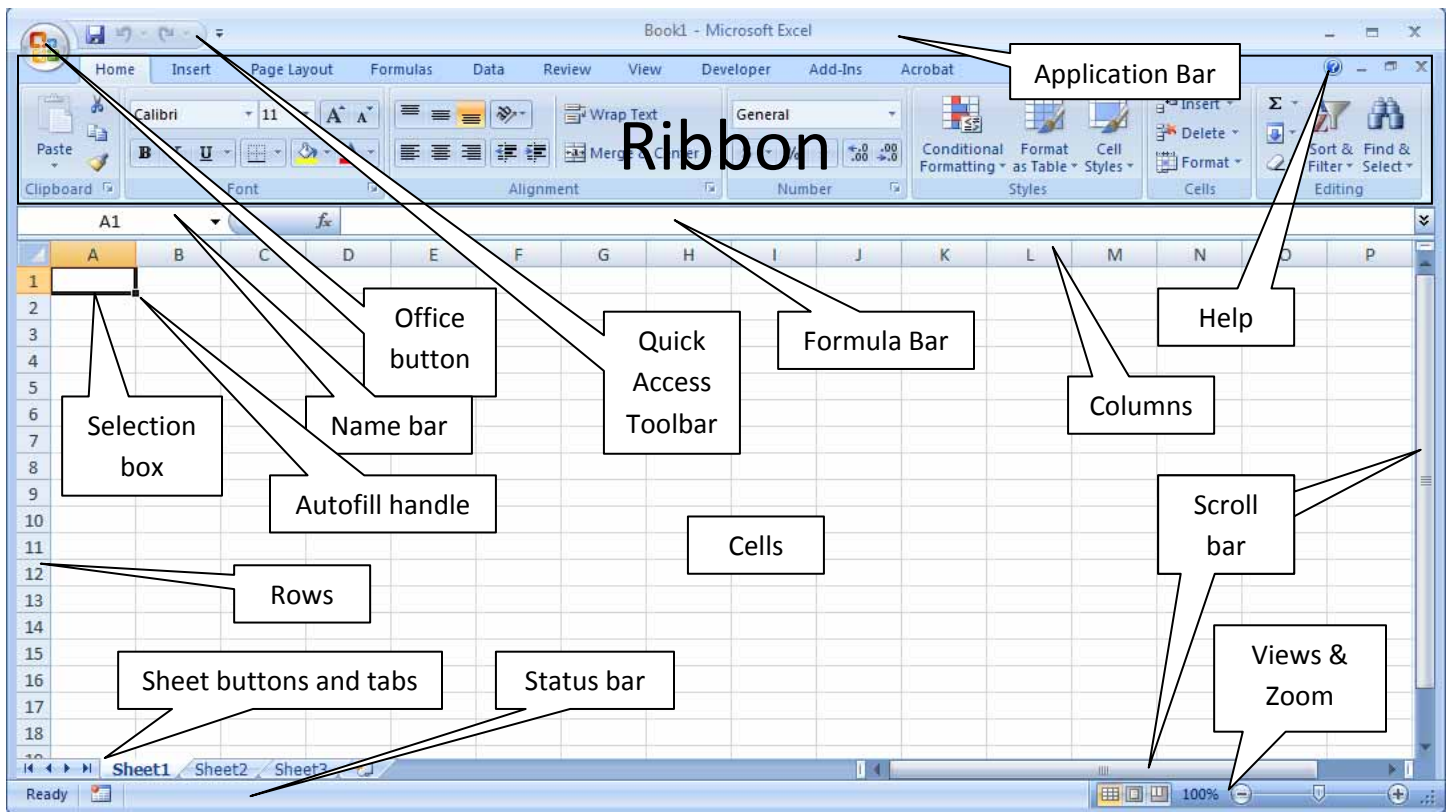
# Session I

## 1. Quiz

- A. What version of Office do you use?
- B. What edition?
- C. Have you tried alternatives? Like WordPerfect, Lotus, OpenOffice
- D. Rate your Excel knowledge.
- E. What do you want to learn today?


## 2. Use the right tool for the right job... Spreadsheets...

- A. Versus word processor
- B. Versus database
  - 1. Strengths
  - 2. Weaknesses
- C. Spreadsheet competition
  - 1. Corel Quattro Pro
  - 2. Lotus 1-2-3
  - 3. Open Office Spreadsheet – [www.openoffice.org](http://www.openoffice.org)
  - 4. Online options
    - a. Google Docs
  - 5. Microsoft Excel
    - a. 95
    - b. 97 - great strides in user interface
    - c. 2000 - better with bigger sheets, better programmability, better wizards
    - d. 2002 - minimal changes other than task pane
    - e. 2003 - minimal changes, stable. When will it be retired?
    - f. 2007 - radical changes, IE the Ribbon



### 3. Structural overview

#### A. Where is help

1. ? button in upper right hand corner of window. 
2. Office help programs access Microsoft web pages for improved results.
3. Web searches, Google works!

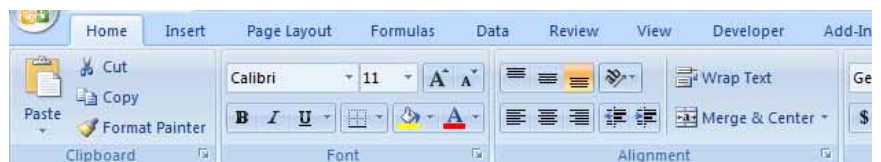
### 4. The Ribbon – heart of the new User Interface (UI)

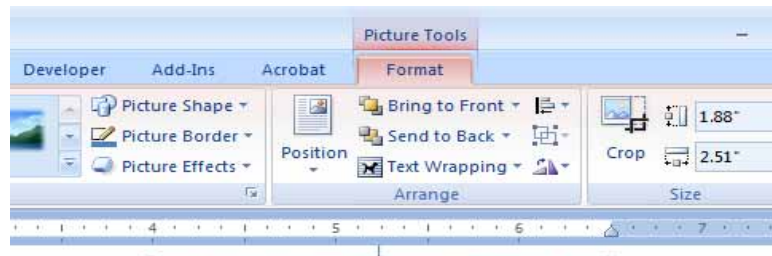
4. Same commands, new places
5. No menus
6. The Ribbon is not a toolbar
7. Not customizable
8. Easy to learn, but tough to unlearn menus and toolbars
9. More extensive tooltips
10. Most items will preview

#### A. Cutting the ribbon to pieces

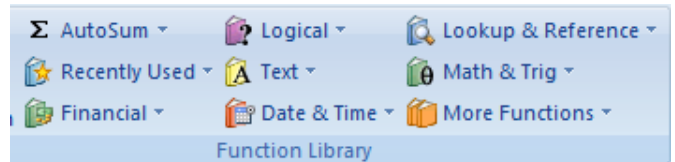
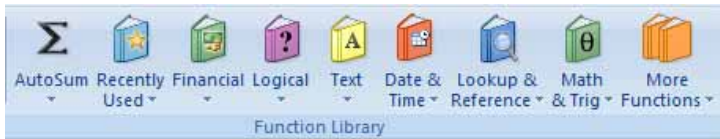
1. Tabs
2. Groups
3. Commands
4. Dialog boxes

- B. Lost commands - Many specific, contextual commands do not show on the ribbon until the proper context is available. For example, there are no picture formatting commands until a picture is inserted or selected.





#### F. Ribbons adjust to fill window

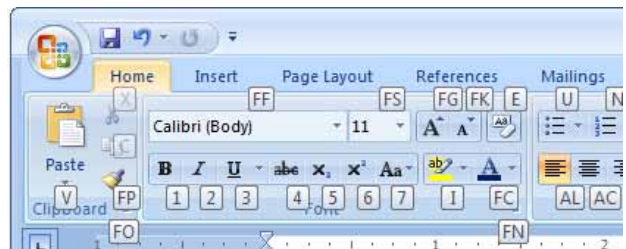


#### G. Mice are for wimps

1. Navigate the Ribbon by tapping the Alt key and then resulting KeyTips. ESC moves to previous selection.
2. There are many keyboard shortcuts.
  - a. Most are unchanged from older Office editions.
  - b. From Help, search for "keyboard shortcuts."

#### C. Where did my ribbon go?

1. Minimize the Ribbon
2. Click on tab titles to use



## 5. Other Pieces



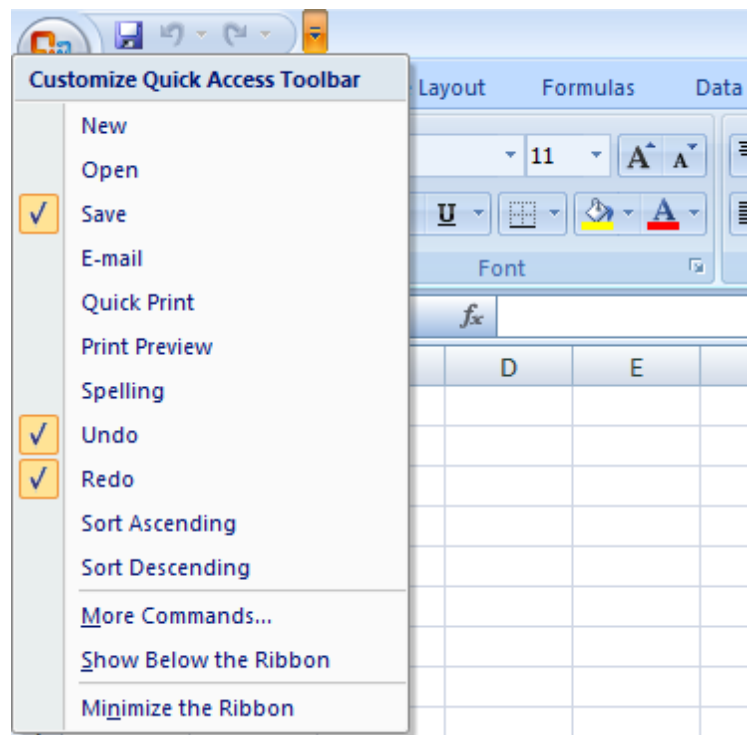
#### A. Microsoft Office Button

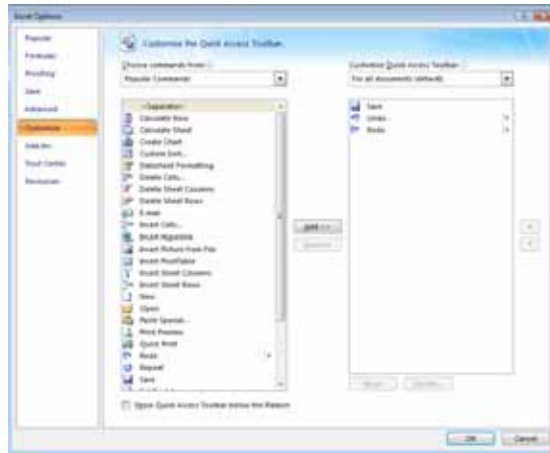
1. Think of the 2003 File menu
2. Application options are found on the bottom right.



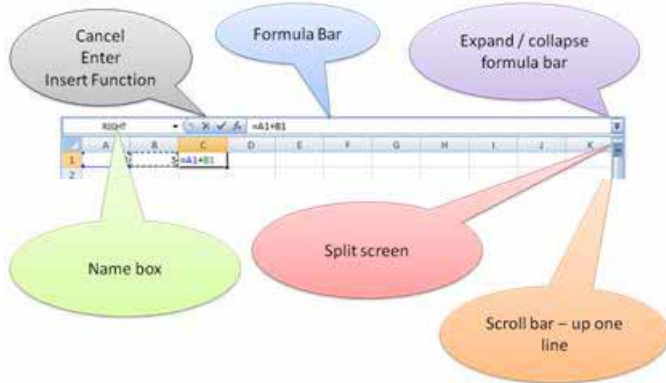
#### B. Quick Access Toolbar

1. Only easily customized part of the UI
  - a. Ribbon can be customized programmatically and via add-on apps
2. Standard commands are Save, Undo and Redo
3. Customize menu
4. Customizing the Quick Access Toolbar
  - a. Select common tools from menu
  - b. Add more tools from More Commands...
  - c. Show below or above the Ribbon

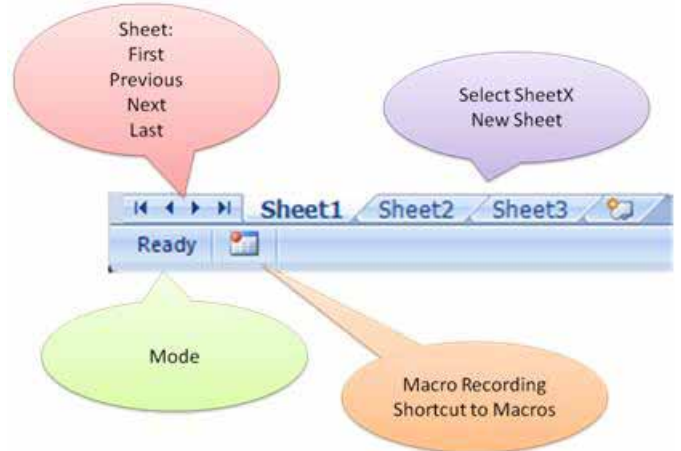




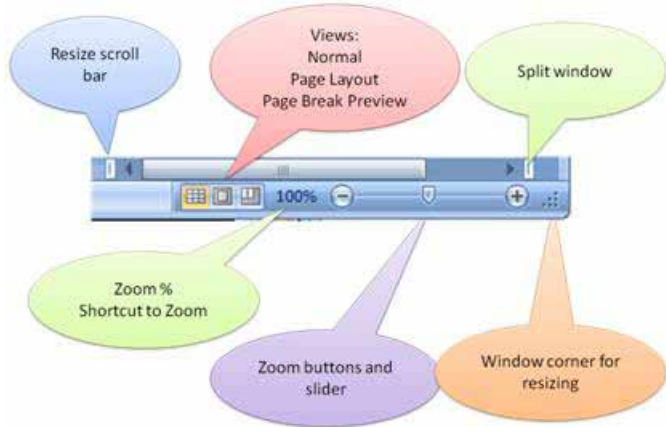
### 1. Formula Bar and Scroll Bar (top)



### 2. Status Bar (left)



### 3. Status Bar (right)



### 4. Task Panes



## 6. Spreadsheet size

	Excel	
	97-2003	2007
Rows	65,536	1,048,576
Columns	256	16,384
Cells	16,777,216	17,179,869,184
Sheets	limited by memory	limited by memory

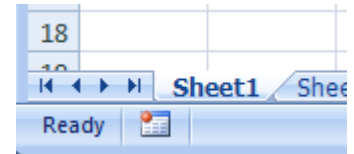
## 7. Data entry - all entry is contained in a single cell

### A. Entry type basics

1. Text - left aligned by default
2. Numbers - right aligned by default
3. Dates - format changes based on how entered

### B. Mode - notice mode on status bar!

1. Ready
2. Enter - entry of new data, replaces old data in cell
  - a. Select any cell, start typing
3. Edit - altering existing data
  - a. F2



<p>b. Double click on cell</p>	<p>1 In cell editing</p>
<p>a. Click in Formula bar</p>	<p>2 Formula bar editing</p>

### B. Removing data

1. Enter new data
2. Delete key - leaves you in ready mode
3. Backspace key - leaves you in enter mode

## 8. Autofill

### A. Editing inside a selected range using Tab / Shift+Tab and Enter / Shift+Enter

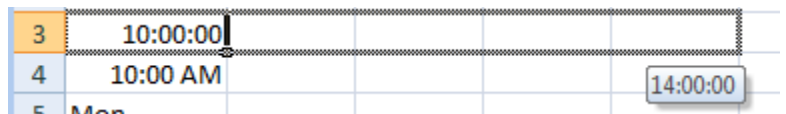
### C. Speeds / accurate data entry

### D. One direction at a time

### E. Be sure to get a black + when trying to grab the autofill handle.

### F. Custom autofills.

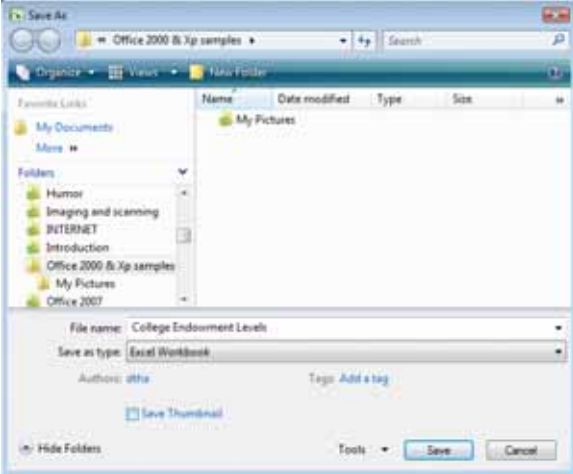
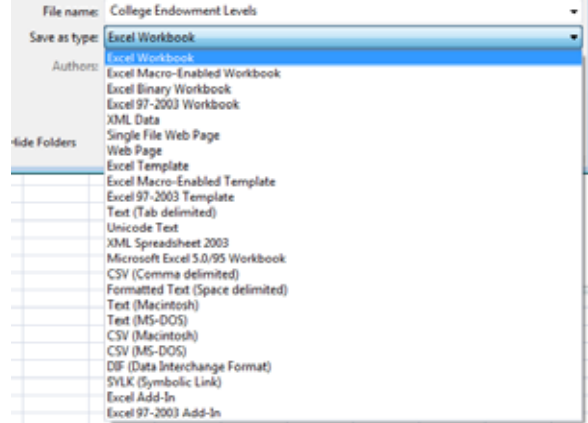
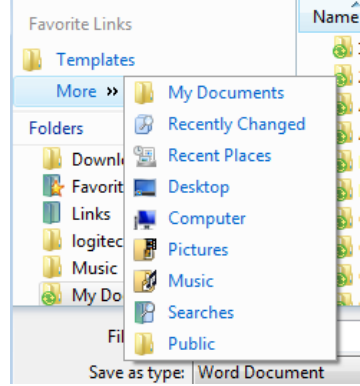
1. Tools, Options, Custom List



- 2. Enter manually or import list from cells

## 9. Open and Close, Save and Save As...

- A. Save makes a copy of the current document onto your hard disk, floppy drive, network drive, USB flash drive (USB memory key)...
- B. Save As makes a new copy of the current document onto your hard disk, etc. by giving you the opportunity to give the file a new name and/or select a new location to save the document. Actually, any *new* Save is a Save As since you have the opportunity to select the document type and location

- i. Save as type
  - a. Excel Document = 2007
  - b. Excel 97-2003 Document = older type, larger, may not support all formatting
- ii. Favorites Links helps you select commonly used areas on your computer.

- C. Open makes a copy of a stored document in your Excel application

## 10. Formulas - meat and potatoes!

A. All formulas begin with = or basic math function

1. Simple operators

- a. + add                               =3+2                       5
- b. - subtract                         =3-2                       1
- c. \* multiply                         =3\*2                       6
- d. / divide                            =3/2                       1.5

2. Less well known

- a. ^ exponent                        =3^2                       9
- b. Comparison
  - i. =                                    =3=2                       FALSE
  - ii. <                                  =3<2                       FALSE
  - iii. >                                 =3>2                       TRUE
  - iv. <>                                 =3<>2                     TRUE
  - v. <=                                 =3<=2                     FALSE
  - vi. >=                                =3>=2                     TRUE

	A	B
1	=3+2	5
2	=3-2	1
3	=3*2	6
4	=3/2	1.5
5		
6	=3^2	9
7	=3=2	FALSE
8	=3<2	FALSE
9	=3>2	TRUE
10	=3<>2	TRUE
11	=3<=2	FALSE
12	=3>=2	TRUE

B. Formulas never reference the cell they are in.

C. Order of operator precedence (or Algebraic Order of Operations, for those of you as old as me!)

$$=2+3*4 \quad =5*4 \quad 20$$

$$=2+12 \quad 14$$

Operators (in order of evaluation)	
Reference	
Range	:
Intersection	Space
Union	,
Arithmetic	
Negation	-
Percentage	%
Exponentiation	^
Multiplication	*
Division	/
Addition	+
Subtraction	-
Text	
Join	&
Comparison (equal precedence)	
Equal	=
Greater than	>
Less than	<
Greater or equal	>=
Less than or equal	<=
Not equal	<>

D. Cell address entry methods

- 1. Typed
- 2. Mouse pointing
- 3. Keyboard pointing

E. Watch Excel's mode on status bar.

F. Simplest formula in the world: bringing a value to another location with =D4

	A	B	C	D
1	2	3	=A1+B1	
2				

## 11. Basic copying and moving

### A. General procedure

1. Select cells to move or copy
2. Copy (to copy) or Cut (to move)
3. Select new location
4. Paste

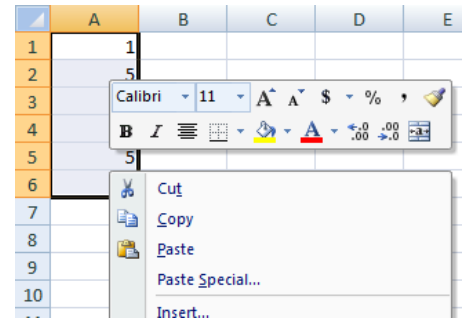
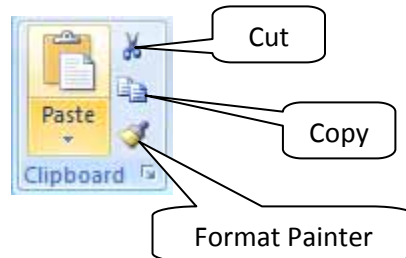
### B. Methods to give cut/copy/paste commands

#### C. Toolbar

##### 1. Home Ribbon

###### a. Shortcut menu via

- i. Right+click
- ii. Shortcut menu key on keyboard
- iii. Shift+F10



##### 2. Shortcut keys

- a. Ctrl+X = cut
- b. Ctrl+C = copy
- c. Ctrl+V = paste

##### 3. Excel border

- a. Drag selection border to move
- b. Ctrl+drag selection border to copy

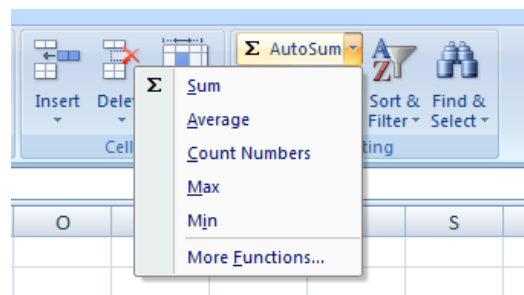
### D. Other notes

1. Select and paste steps can be repeated as long as original cut/copy remains on clipboard.
2. ESC will cancel clipboard.

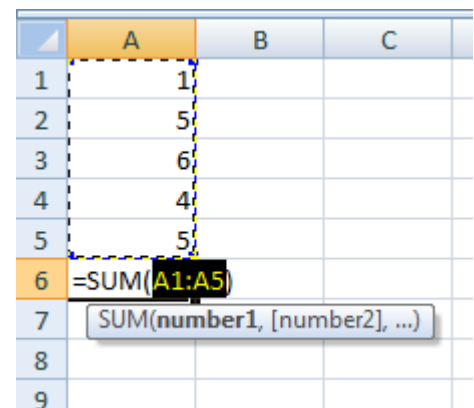
## 12. Formulas with functions

### A. Use of Autosum

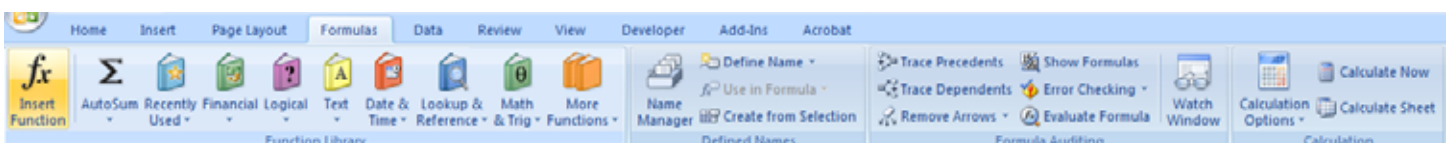
1. Select only the cell you want the sum (total) in.
2. Click the Autosum button on the Home Ribbon
3. Insure the cells you want to add up are highlighted.
4. Press Enter or click the Enter checkmark on the Formula Bar.



- B. Use the Autosum dropdown to select other common functions.

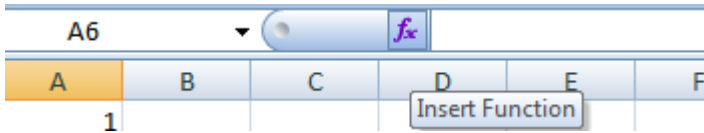


### C. Using Formula Ribbon



1. Insert Function

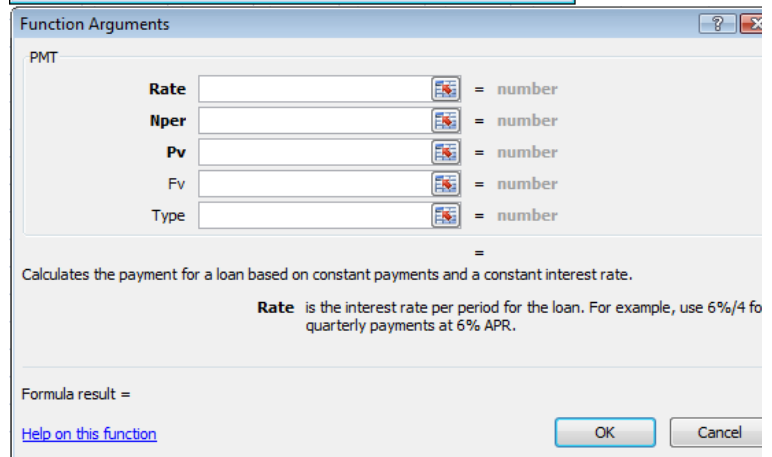
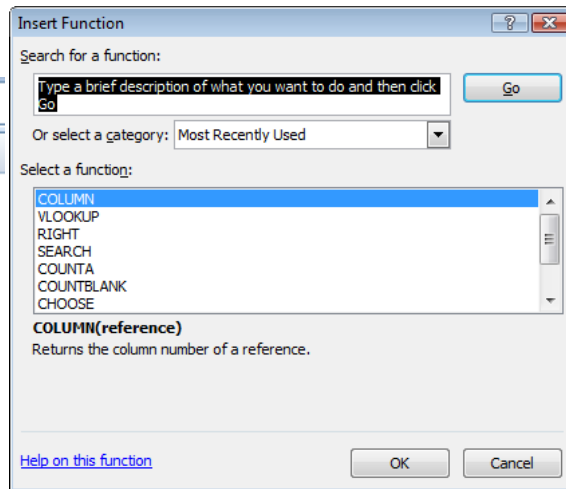
a. Can also be launched from Formula Bar



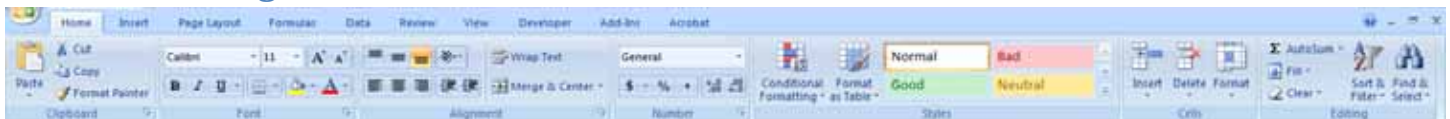
- 2. Repeat of AutoSum
- 3. Recently used functions
- 4. Other categories

- 5. Required / optional arguments
- 6. Don't forget Help on the function.

D. Autofill formulas!

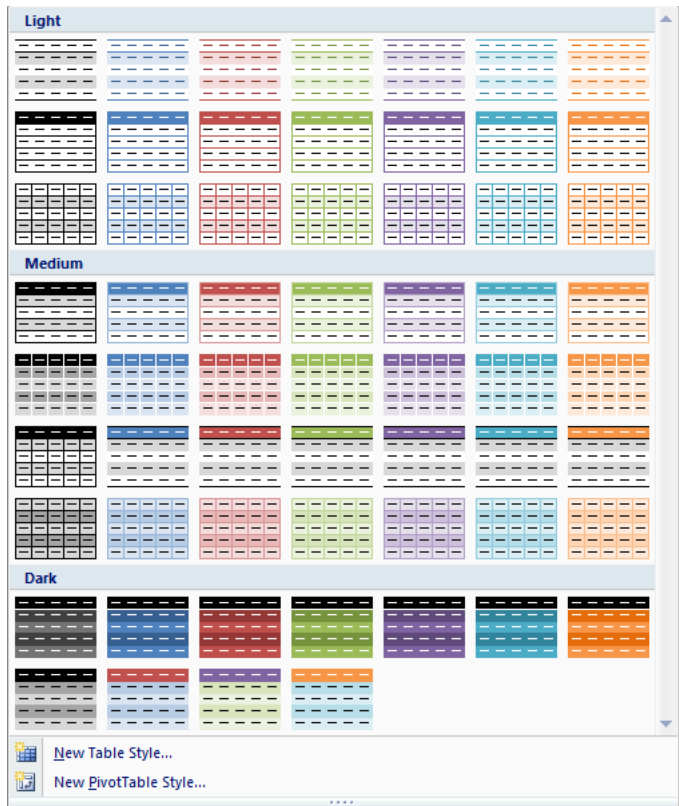
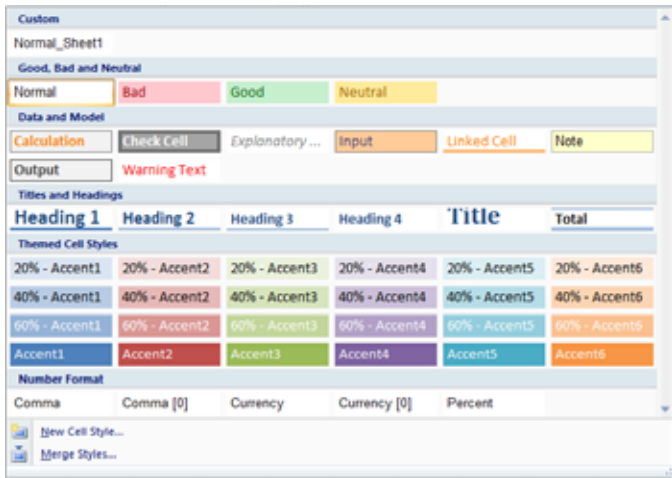


### 13. Formatting



- A. Made easy on the Home Ribbon
  - 1. Cell Styles

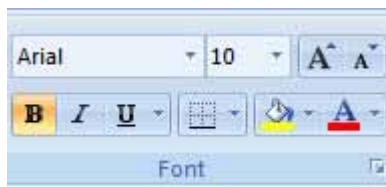
2. Format as Table



3. Honorable mentions
  - a. Conditional Formatting
  - b. In older versions of Excel be sure to select the data you want to autoformat, or selecting and formatting all the cells will take quite some time!
  - c. All changes can be overridden with options or formatting later.

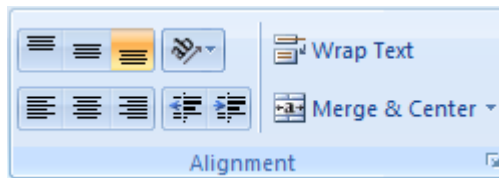
B. Font

1. Font and size
2. Bold, Italics, Underline
3. Borders
4. Cell fill color
  - a. White <> No fill
5. Text color



C. Alignment

1. Within cells
  - a. Vertical
  - b. Horizontal
  - c. Rotation
  - d. Indent
  - e.



2. Wrap Text

	A	B	C
1	top	center	bottom
2	left	center	right
3	twisted	twisted	vertical

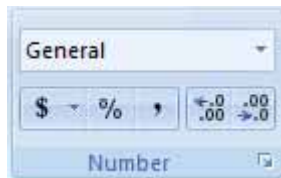
3. Merge and center

- a. Select cells to center a title on
- b. Click Merge & Center button!

1	Sales Trip Expense Report					
2	Week Ending September 26, 2008					
3						
4		Travel	Lodging	Entertain.	Meals	Total
5	9/22/2008	78	175	5	100	358
6	9/23/2008	246	100	45	3	394
7	9/24/2008	90	150	43	2	285
8	9/25/2008	45	145	344	56	590
9	9/26/2008	0	0	0	0	0
10						
11	Total	459	570	437	161	1627
12	Average	91.8	114	87.4	32.2	325.4
13						

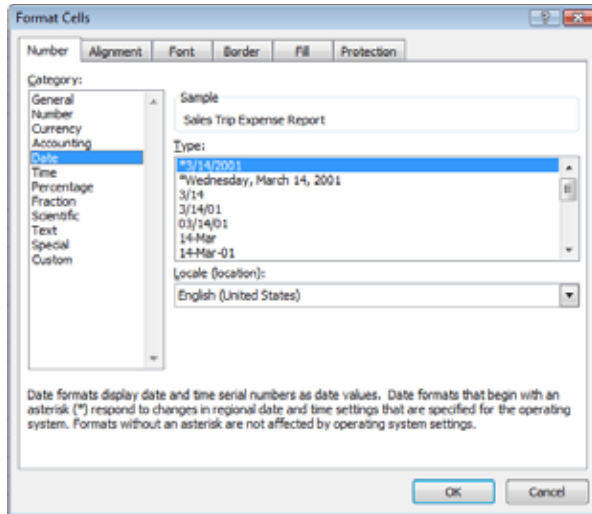
4. Numeric formatting

- a. General vs. other formats
- b. Decimals displayed



The screenshot shows the 'Merge & Center' button in the ribbon, which is active. Below it, a list of numeric formats is displayed, including General, Number, Currency, Accounting, Short Date, Long Date, Time, Percentage, Fraction, Scientific, and Text. The 'General' format is selected, showing 'ABC 123' as the preview.

- 5. More and more and more
  - a. Same as older versions of Excel



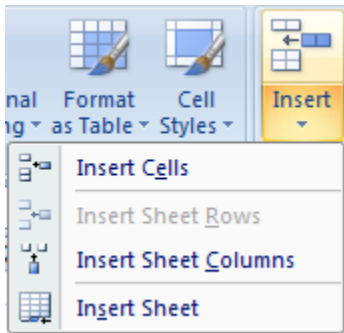
- 6. Date basics
  - a. Dates are numbers.
    - i. Day 1 = 1/1/1900
    - ii. Day 39,481 = 2/3/2008
  - b. Unusual numbers around 40,000 are usually misformatted dates.
  - c. Formatting makes dates look like dates!

	2/3/2008
	Sunday, February 03, 2008
	39481.00

## 14. Columns and rows and cells

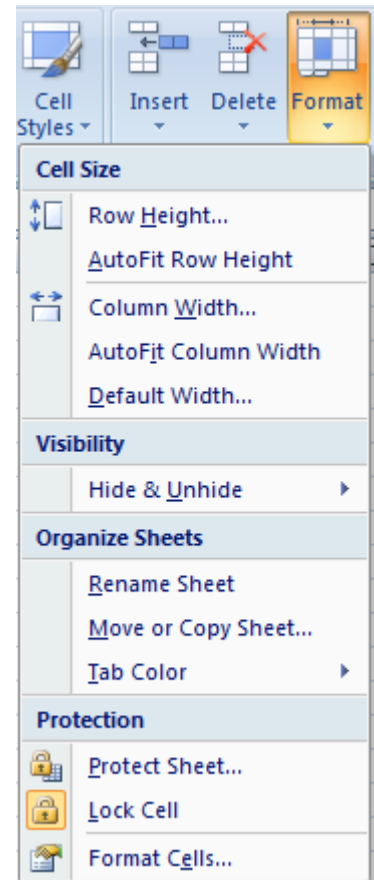
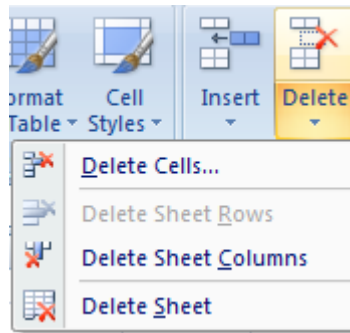
### A. Insert

- 1. Simple method
  - a. Select column(s) / row(s)
  - b. Click Insert button
- 2. Rather than using button, right+click on header, Insert
- 3. Or use Insert drop down menu.



### B. Delete

- 1. Simple method
  - a. Select column(s) / row(s)
  - b. Click Delete button
- 2. Rather than using button, right+click on header, Delete
- 3. Or use Insert drop down menu.



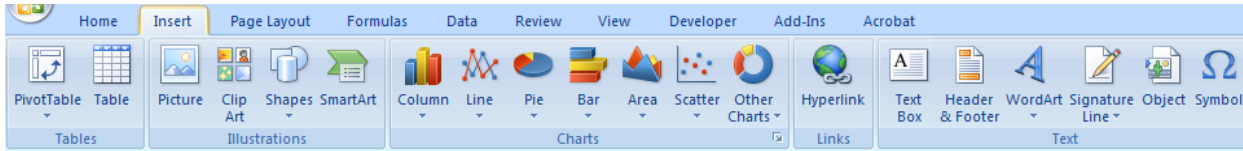
### C. Width and height

1. Methods
  - a. Select column(s) or row(s), Format, Width or Height
  - b. Select column(s) or row(s), drag border
2. Point to line between headers and drag
  - a. Autofit by double clicking! Finds widest or tallest entry and adjusts accordingly

D. Hide and unhide

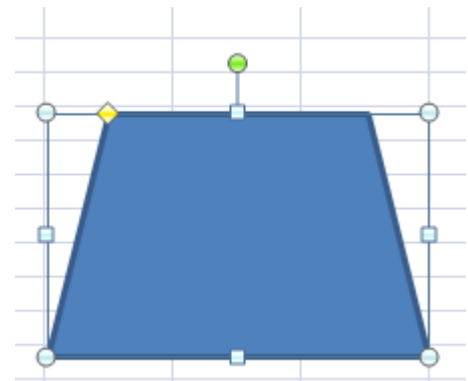
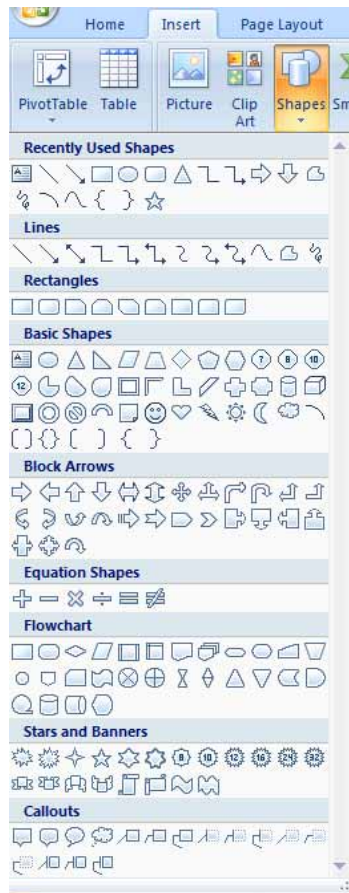
1. Select column(s) or row(s), Hide

## 15. Insert fun



A. Shapes

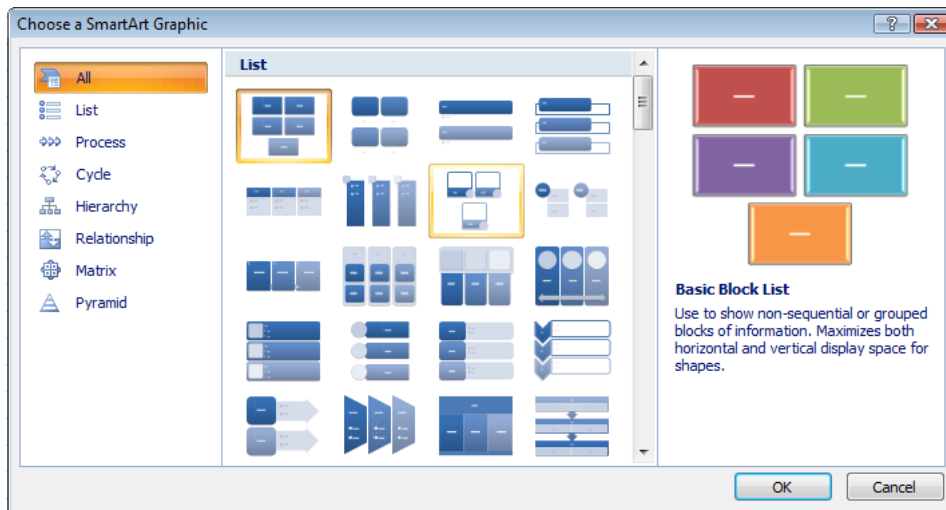
1. Creating
  - a. Insert Ribbon
  - b. Shapes
  - c. Select a shape
  - d. Use the crosshair to draw the shape
2. Delete using the delete key when object is selected
3. Handles
  - a. White circles – drag to change size
  - b. Green circle – drag to rotate
  - c. Yellow diamond – drag to change angle, location or size of optional component
4. Many more things can be done on Drawing Tools Format Ribbon



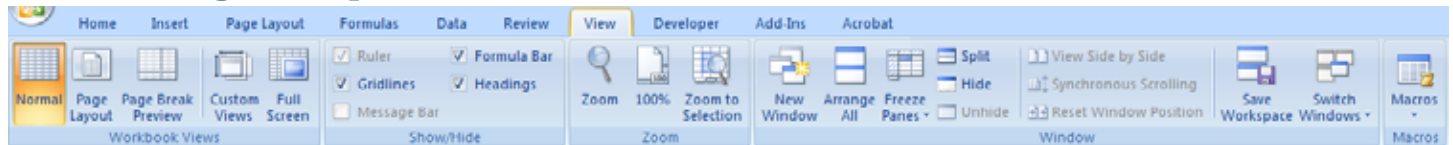
5. Fill: white is a solid color, no fill will be transparent and allow you to see the spreadsheet



2. SmartArt



16. Printing techniques

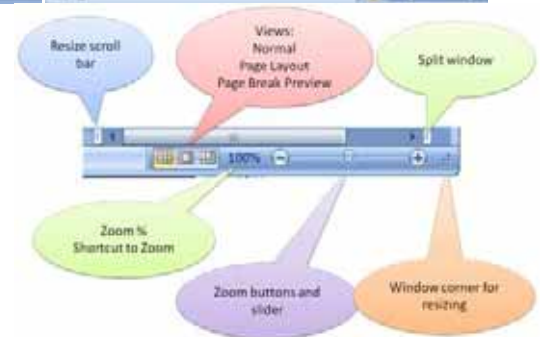


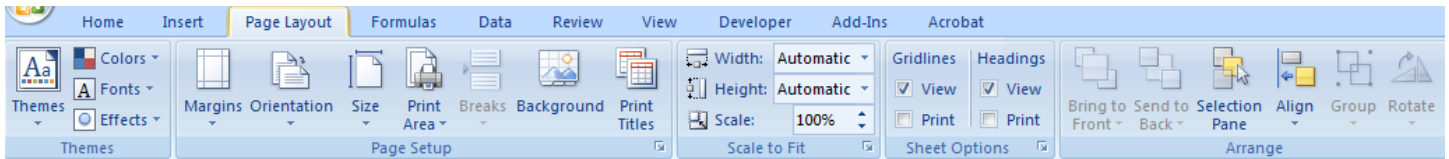
A. Use View Ribbon

1. Workbook Views allow WYSIWYG editing of spreadsheet



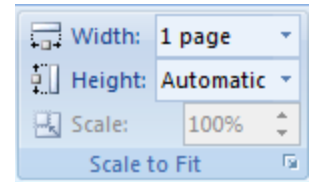
2. Zoom is on screen only!





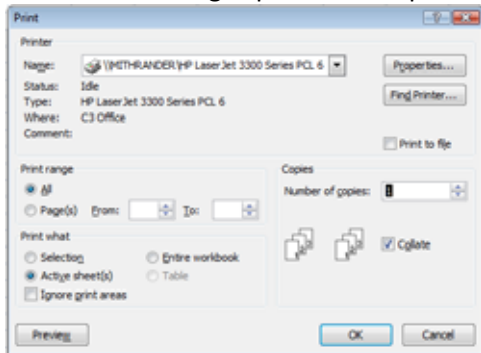
**B. Use Page Layout Ribbon**

1. Margins
2. Orientation
3. Paper size
4. Print Area – sets *what* you want to print rather than Excel selecting automatically.
5. Scale to fit
  - a. Selecting a page zooms out to squeeze it on.
  - b. Automatically, allows the Excel to determine the needed number of pages.
  - c. So Width = 1 page and Height = Automatic will scale the print to fit one page horizontally and as many as needed vertically.

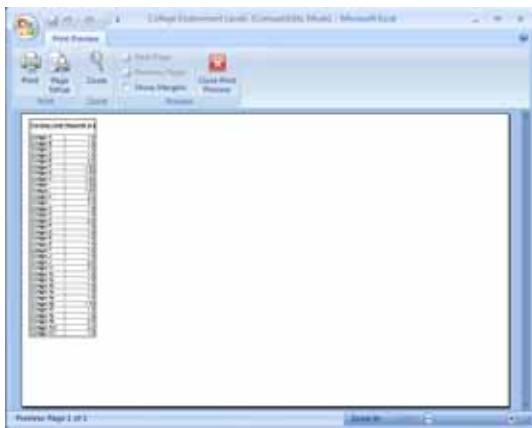
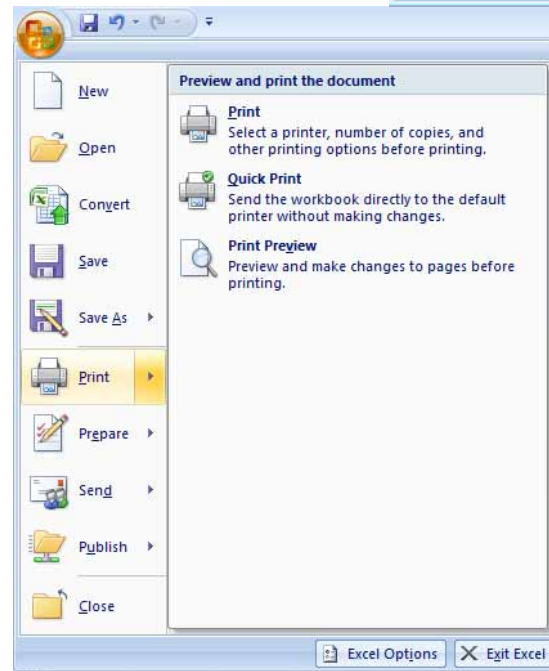


**C. Print command of Office Button**

1. Print brings up traditional printer dialog.

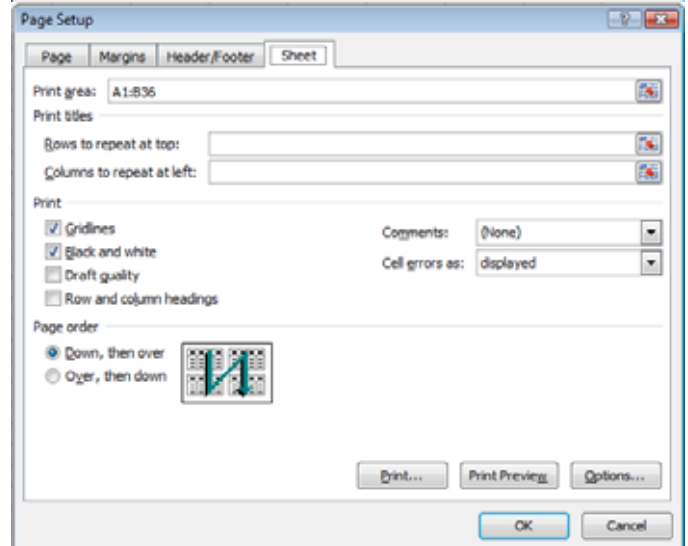
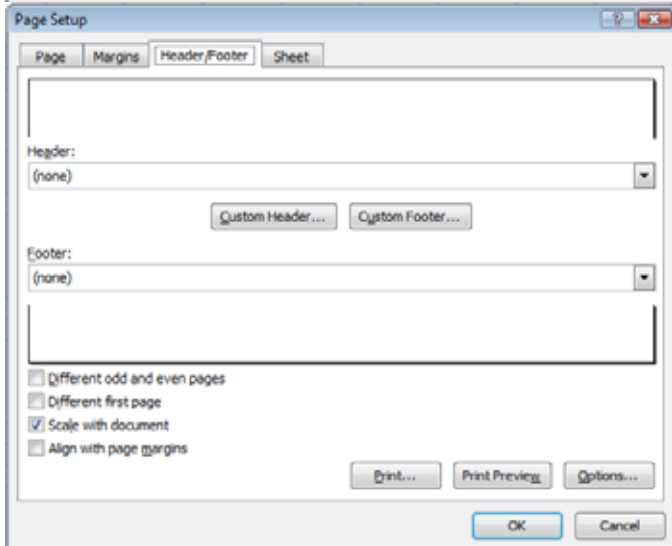
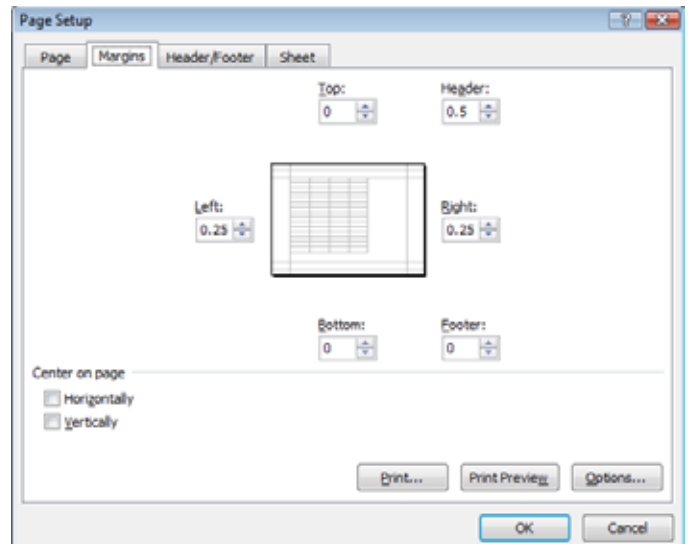
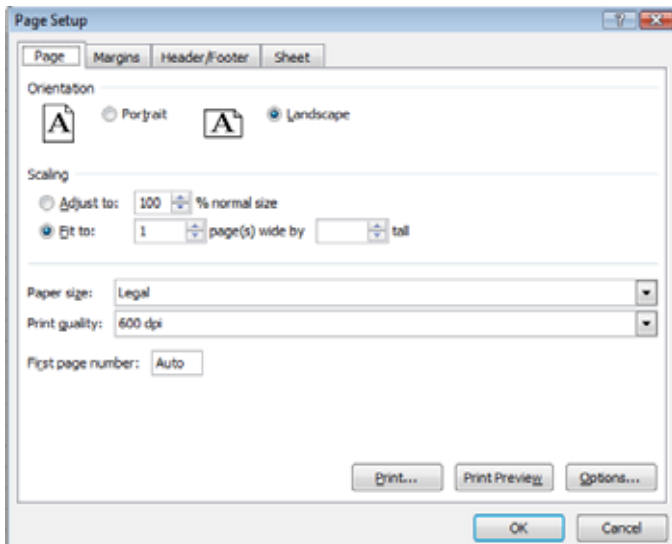


2. Quick Print sends to printer with all current settings.
3. Print Preview



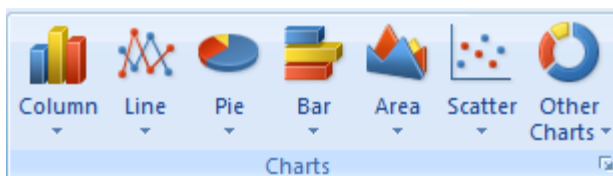
**D. Page Setup**

1. Choosing More from almost any option brings up the traditional page setup dialog box.
2. Can also be accessed from Print Preview.



## 17. A picture says a thousand words... Chart basics...

- A. Select detailed chart types from the listed categories on the Insert Ribbon.





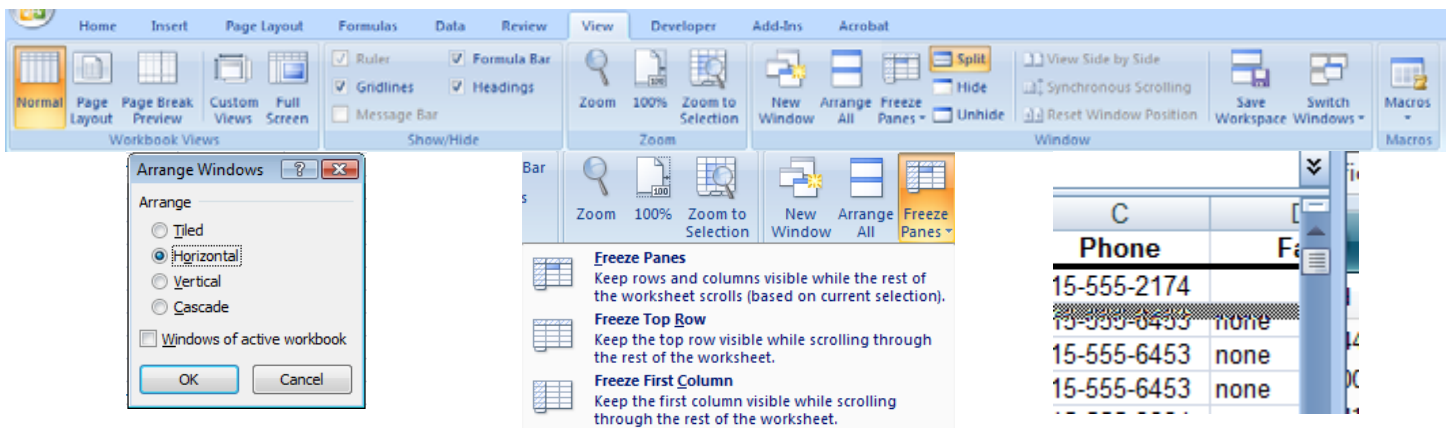
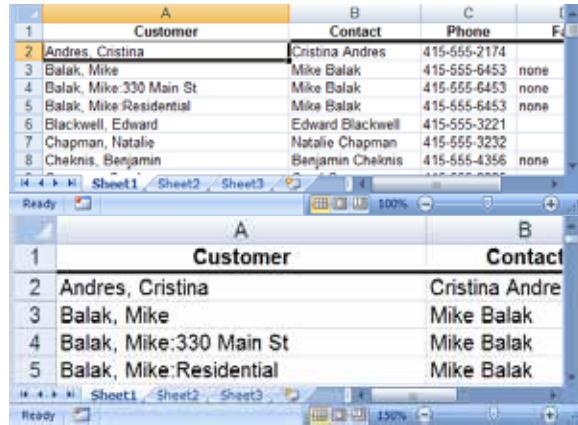
## Session II

### 18. Navigation

#### A. View

1. Zoom with slider
2. View ribbon
  - a. Full screen
  - b. Show/Hide options
  - c. Zoom
    - i. Zoom to Selection
      - A) Select a the cells you want to fit the screen
      - B) Click Zoom to Selection
  - d. Window
    - i. New Window
    - ii. New Window
    - iii. Arrange All
      - A) View Side by Side
      - B) Synchronous scrolling
  - e. Freeze Panes

QBooks  
customer  
balances



#### B. Accelerate your keyboard

	Cell	Data block	Scroll screen	Current sheet	Sheet
Left	← Shift+Tab	Ctrl+←	Alt+PgUp	Home (col A)	
Right	→ Tab	Ctrl+→	Alt+PgDn		
Up	↑ Shift+Enter	Ctrl+↑	PgUp	Ctrl+Home (A1)	Ctrl+PgUp
Down	↓ Enter	Ctrl+↓	PgDn	Ctrl+End (bott rt)	Ctrl+PgDn

#### C. Selecting

	Cells	Columns	Rows
<b>Mouse, contiguous area</b>			
<b>single</b>	Click with selection cursor (white plus), click	Click column header (letter)	Click row header (number)

multiple	Click and drag	Click and drag column header	Click and drag row header
<b>Keyboard, contiguous</b>			
Single	Navigate with table above	Ctrl+Spacebar	Ctrl+Shift+Spacebar
Multiple	Shift+navigation keys	Ctrl+Spacebar, Shift+navigation	Ctrl+Shift+Spacebar, Shift+navigation
<b>Keyboard &amp; mouse, contiguous</b>			
Multiple	Select first, Shift+click	Select first, Shift+click	Select first, Shift+click
<b>Keyboard &amp; mouse, non-contiguous</b>			
Single	Select first, Ctrl+click	Select first, Ctrl+click	Select first, Ctrl+click
Multiple	Select first, Ctrl+click & drag	Select first, Ctrl+click & drag	Select first, Ctrl+click & drag

1. F8 can be used to toggle selection on and off

## 19. Keyboard shortcuts

- A. If you want a complete list, click Help and search for "keyboard shortcuts."
- B. You will get a link to a complete listing.



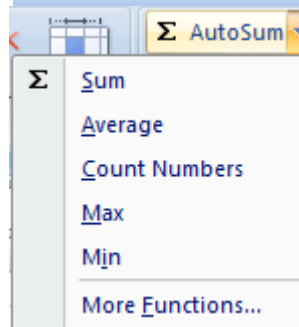
## 20. Formulas

- A. Reminder: Status bar calculations
  1. Right+click for additional options

Gender and Age		source
Male	9,146,748	
Female	19,829,709	
Under 5 years	1,239,417	
Average: 14,488,229		Count: 2 Sum: 28,976,457

- B. Review: Autosum and other calculations
  1. Select cell for result
  2. Select Autofunction from Home or Formulas ribbon
  3. Select function
  4. Select desired cells
  5. End entry with Enter or Checkmark on formula bar

	A	B	C	D	E
1	Gender and Age			source	http://censtat:
2	Male	9,146,748			
3	Female	19,829,709	=SUM(B2:B3)		
4					



C. Review: All formulas begin with = or basic math function

1. Simple operators

- a. + add =3+2 5
- b. - subtract =3-2 1
- c. \* multiply =3\*2 6
- d. / divide =3/2 1.5

2. Less well known

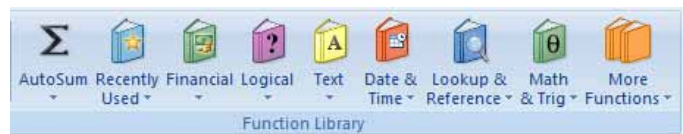
- a. ^ exponent =3^2 9
- b. Comparison
  - i. = =3=2 FALSE
  - ii. < =3<2 FALSE
  - iii. > =3>2 TRUE
  - iv. <> =3<>2 TRUE
  - v. <= =3<=2 FALSE
  - vi. >= =3>=2 TRUE

	A	B
1	=3+2	5
2	=3-2	1
3	=3*2	6
4	=3/2	1.5
5		
6	=3^2	9
7	=3=2	FALSE
8	=3<2	FALSE
9	=3>2	TRUE
10	=3<>2	TRUE
11	=3<=2	FALSE
12	=3>=2	TRUE

D. Formulas never reference the cell they are in.

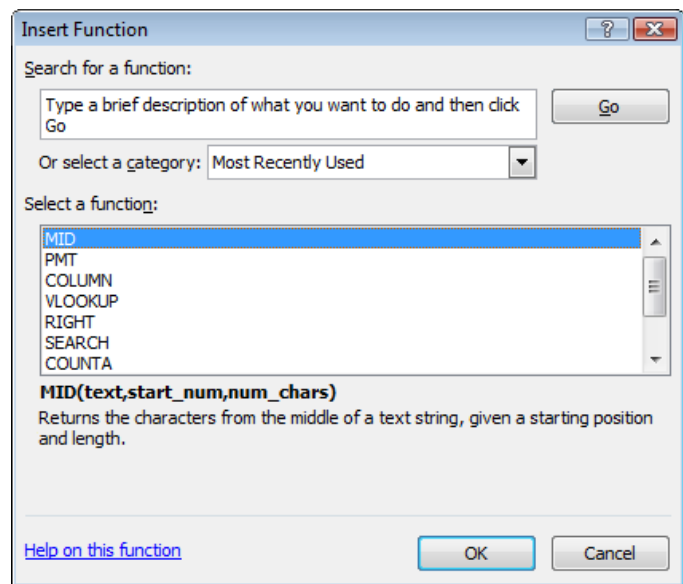
E. Formula Ribbon, Function Library

- 1. AutoSum
- 2. Recently Used
- 3. Financial
- 4. Logical
- 5. Text
- 6. Date & Time
- 7. Lookup and Reference
- 8. Math & Trig
- 9. More Functions
  - a. Statistical
  - b. Engineering
  - c. Cube
  - d. Engineering



F. Insert Function

- 1. Accessible from
  - a. Insert Function on Formula ribbon
  - b. All AutoSum drop downs
  - c. All Function Library drop downs
- 2. Use Search and Go to find...
- 3. Browse Categories



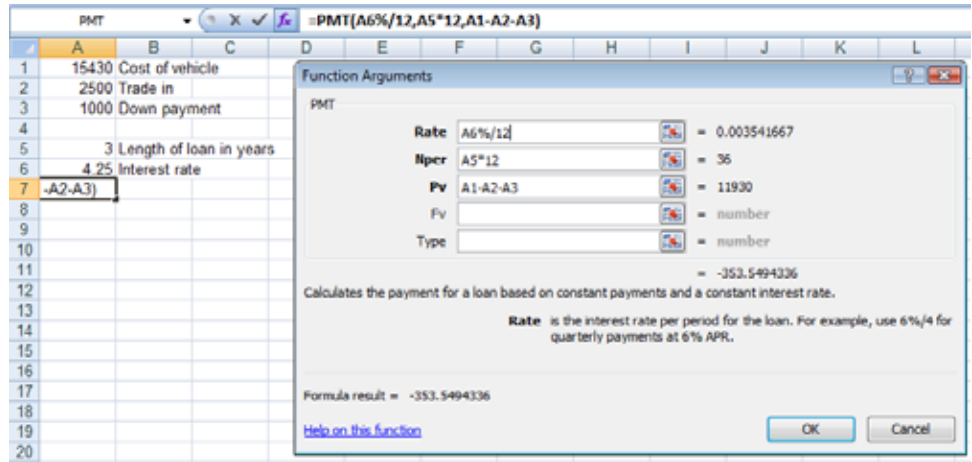
G. Functions for experimentation

1. IF()

Sales Commission

	A	B	C	D	E	F	G	
1	<b>Sales Commissions</b>							
2								
3		Jan	Feb	Mar	Qtr 1 Sales	Commission %	Commission	
4	Paul	3,435	856	2,366	\$ 6,657.00	2.50%	\$ 166.43	
5	Joe	4,627	4,845	2,367				

2. PMT()



H. More formulas and functions

1. World's easiest unknown formula =
2. Concatenate text with &

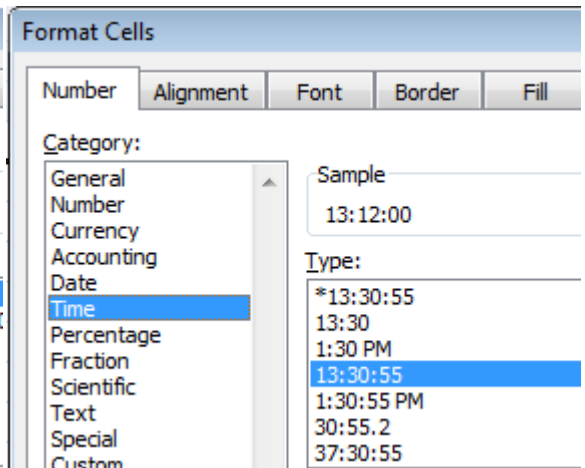
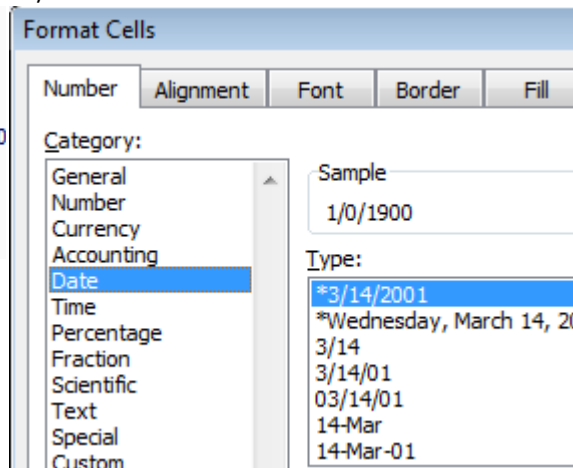
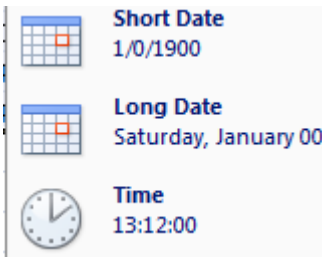
Grade book, With class averages sheet

- Bring class average to D1
- Clear D1 and D2 and create "The class average is 81%."

21. Dates and times

- A. Dates are counted from January 1, 1900. On a Macintosh, from January 1, 1904.
- B. Dates and times can be used in formulas.
- C. The appearance of the date and time is based on formatting!

Number	39,481.00	39,481.55	0.55
Short date	2/3/2008	2/3/2008	1/0/1900
Long date	Sunday, February 03, 2008	Sunday, February 03, 2008	Saturday, January 00, 1900
Time	00:00:00	13:12:00	13:12:00
Long date without day of week	February 3, 2008	February 3, 2008	January 0, 1900
Short date and time	2/3/08 12:00 AM	2/3/08 1:12 PM	1/0/00 1:12 PM
Time AM/PM	12:00 AM	1:12 PM	1:12 PM



D. Handy functions

NOW()	10/13/2008 12:05
TODAY()	10/13/2008
DATE(2008,2,3)	2/3/2008
DAY( <i>date above</i> )	3
MONTH( <i>date above</i> )	2

## 22. Relative and Absolute References

A. Most formulas use relative references. As a formula is copied or moved, the references move.

	A	B	C
1	2	3	=A1-B1
2	4	5	=A2-B2
3	6	7	=A3-B3
4	8	9	=A4-B4

B. Absolute references prevent the referenced address from moving as a formula is moved or copied.

	A	B	C
1	2	3	= <b>\$A\$1-\$B\$1</b>
2	4	5	= <b>\$A\$1-\$B\$1</b>
3	6	7	= <b>\$A\$1-\$B\$1</b>
4	8	9	= <b>\$A\$1-\$B\$1</b>

- a. Without the use of absolutes, it is often necessary to create the same calculation over and over rather than simply copying the first formula.
2. \$ preceding a reference makes it absolute.
  - a. \$A\$1 would not move from A1
  - b. A\$1 would not move from row 1
  - c. \$A1 would not move from column A
  - d. A1 would change both the column and row references
3. F4 can be used to rotate through the absolute / relative pattern (\$A\$1, A\$1, \$A1, A1...) or \$s can be typed in manually.
4. Calculating sales tax simply, using an absolute reference.
  - a. Done wrong, with all relative addressing.

Absolute reference examples  
Car payment!Form 3  
New windchill

	A	B	C	D
1	7%	Sale	Sales tax	Total
2		54.00	3.78	57.78
3		44.00	-	44.00
4		85.10	-	85.10
5		87.00	-	87.00
6		3.30	-	3.30

	A	B	C	D
1	0.07	Sale	Sales tax	Total
2		54	=B2*A1	=SUM(B2:C2)
3		44	=B3*A2	=SUM(B3:C3)
4		85.1	=B4*A3	=SUM(B4:C4)
5		87	=B5*A4	=SUM(B5:C5)
6		3.3	=B6*A5	=SUM(B6:C6)

b. Done correctly with an absolute address.

	A	B	C	D
1	7%	Sale	Sales tax	Total
2		54.00	3.78	57.78
3		44.00	3.08	47.08
4		85.10	5.96	91.06
5		87.00	6.09	93.09
6		3.30	0.23	3.53

	A	B	C	D
1	0.07	Sale	Sales tax	Total
2		54	=B2*\$A\$1	=SUM(B2:C2)
3		44	=B3*\$A\$1	=SUM(B3:C3)
4		85.1	=B4*\$A\$1	=SUM(B4:C4)
5		87	=B5*\$A\$1	=SUM(B5:C5)
6		3.3	=B6*\$A\$1	=SUM(B6:C6)

## 23. Sheets and working in 3D

A. Navigation

1. Click on tabs
2. Ctrl+PgUp and Ctrl+PgDn

B. All command can be given from right-clicking on tabs or Cell group of Home ribbon.

C. Moving and copying sheets

D. Renaming sheets

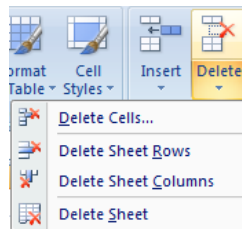
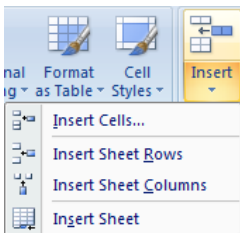
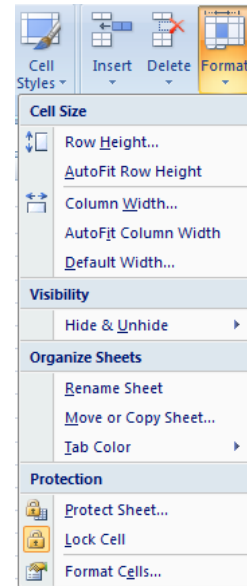
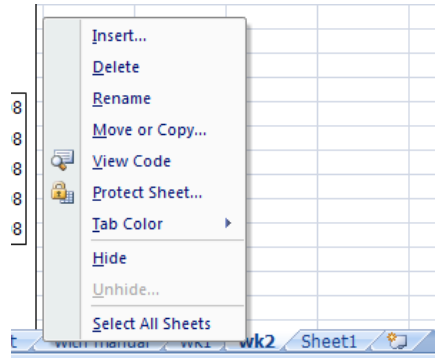
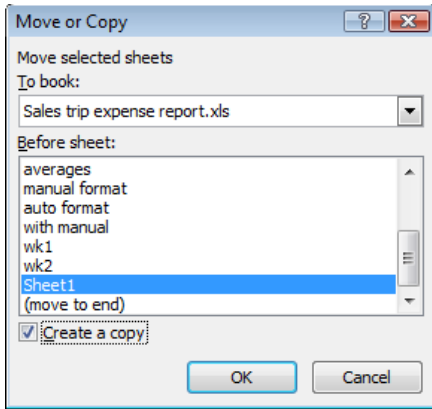
E. Group sheets

1. All changes made occur to every sheet – formatting, cell entries, formulas, inserting and deleting...
2. Creating groups

Sales trip expense report

- a. Select first sheet tab
- b. Shift+click to select contiguous groups
- c. Ctrl+click to select and unselect individual sheets
3. Ungroup by right+click, Ungroup Sheets or select a sheet not in the group.
4. Coloring tabs may help visibility

F. Insert and Delete sheets



G. Undo still doesn't work on most sheet commands!

## 24. Formulas across sheets

Sales trip expense report

A. Notes

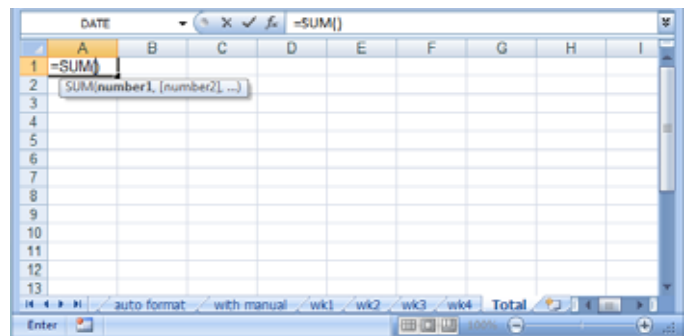
1. Formulas are written the same way they are written on a single sheet
2. Grouping sheets across formulas becomes critical.

B. Method

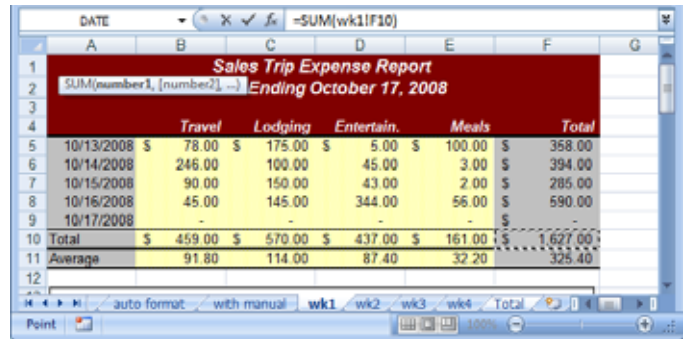
1. Select cell to contain the result
2. Start writing formula

C. Sample

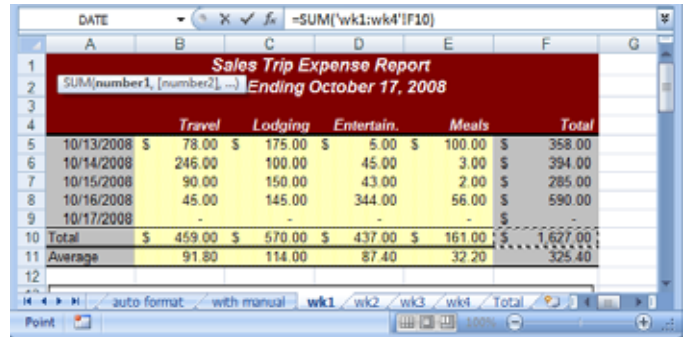
1. Select Total sheet, A1
2. Press AutoSum



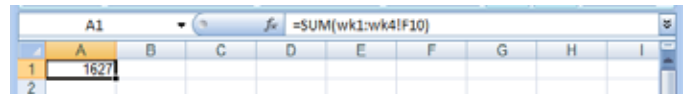
- 3. Select sheet and cell with first reference
- 3. Click on sheet wk1 and click on the total in F10



- 4. Use Shift+click or Ctrl+click to group sheets in formula.
- 5. Shift click on the wk4 sheet tab



- 5. Press Enter or click the checkmark on the formula bar to complete the formula!
- 6. Press Enter or click the checkmark on the formula bar.

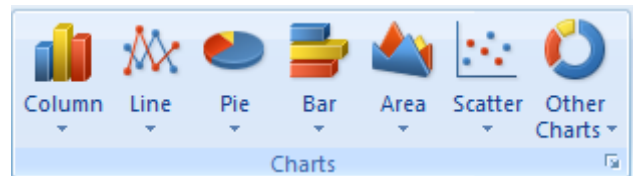


- D. Formula =SUM(wk1:wk4!F10)
  - 1. =SUM() remains the same
  - 2. wk1:wk4 indicates the range of sheets to sum from
  - 3. ! indicates to the left refers to sheets, to the right refers to cells
  - 4. F10 remains the same, referring to the cell
- E. Use = to bring a number from another cell
- F. Same method can write formulas across files!

## 25. Charting

### A. Method

- 1. Select data and titles to chart
- 2. Insert ribbon
- 3. Charts section
- 4. Select a chart type!

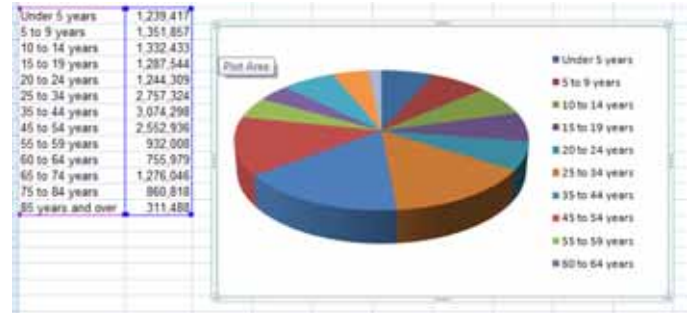


### B. Notes

- 1. Resulting chart is an object floating on the spreadsheet. It can be moved or resized. It can also be moved to another sheet or its own sheet using Move Chart on the Chart Tools, Design ribbon.
- 2. Change chart type button allows a “redo” and may be the best place to see all the chart types.

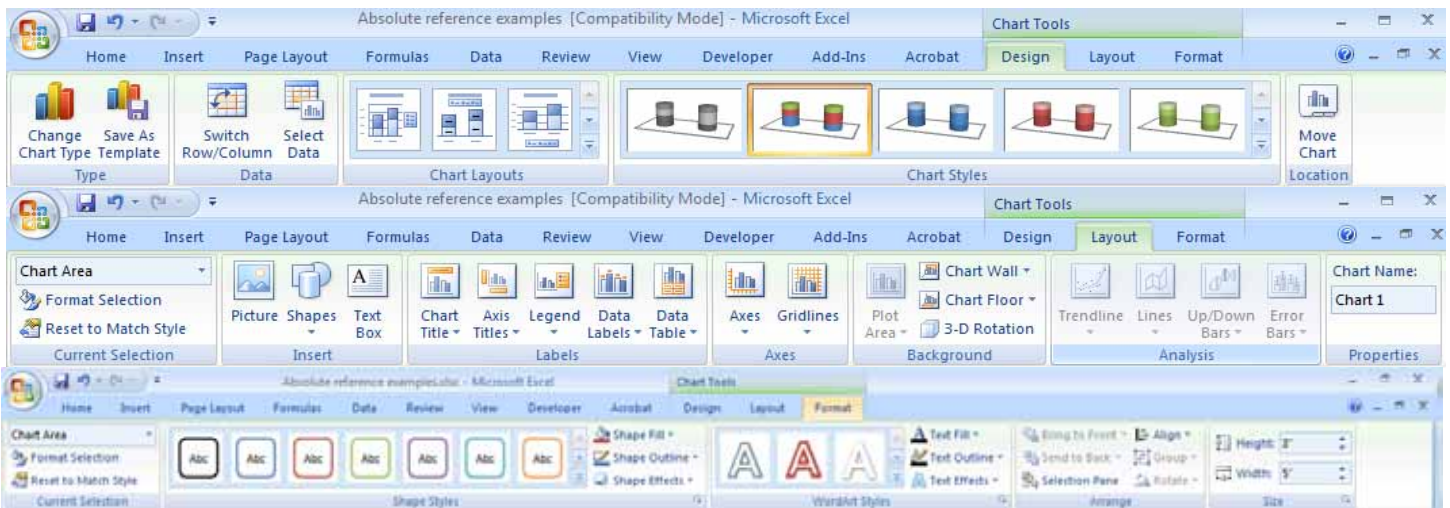
Sales trip expense report!with manual  
NY 2000 Census

- Column, Line, Bar, Area and XY (Scatter) charts are the same thing with different shapes and orientations.
- Pie charts are unique in their ability to show “one dimensional” data well. Doughnut charts are like stacked pie charts but tend to be hard to read.
- Stock, surface, bubble and radar charts have very specific uses.



#### C. Items to check out

- Design ribbon
  - Switch Row/Column
  - Chart Layouts
  - Chart Styles
- Layout ribbon allows control of the chart by the command label
  - Relocate the legend
  - Fill in the chart title
- Format ribbon allows control of the chart by clicking on a piece of the chart
  - Change the chart background
  - Alter the color of data



## 26. Cut/Copy/Paste and the Format Painter

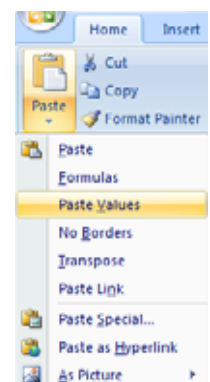
### A. Four steps...

- Select
  - Home ribbon
  - Right+click
  - Ctrl+X and Ctrl+C
- Select new location
- Paste (Ctrl+V)

B. Steps 3 and 4 can be repeated as long as cut/copy operation remains active. Flashing highlight indicates activity of cut/copy.

C. Paste Special allows for manipulation of data.

D. Shortcut keys to remember across the bottom of your keyboard



Undo	Cut	Copy	Paste
Ctrl+Z	Ctrl+X	Ctrl+C	Ctrl+V
Zorro, undoing is foe	Scissors	C is for copy	Editor's insert <sup>tion</sup> symbol



E. Format Painter copies the formatting of a cell/range to another cell/range.

1. One time method
  - a. Select the original
  - b. Click Format Painter
  - c. Select the cell/range you want to look like the original.
2. Multi-use method
  - a. Select the original
  - b. Double+click Format Painter
  - c. Select the cell/range you want to look like the original.
  - d. Repeat as needed.
  - e. Click on Format Painter to turn it off.

Monthly weather averages! Degree formatting

## 27. Database

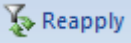
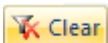
### A. Sort

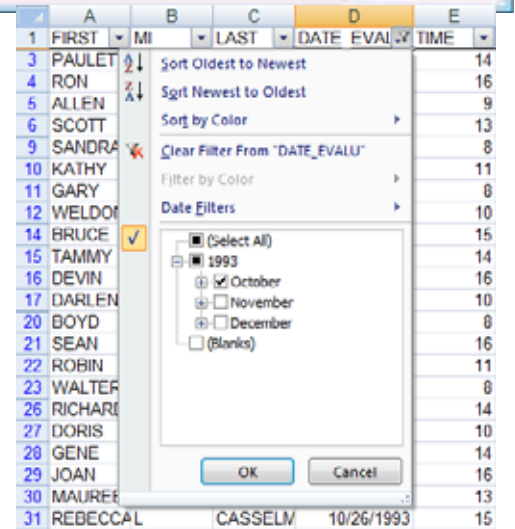
1. Method
  - a. Select a cell in the column you wish to sort by.
  - b. Select the Data ribbon and look for the Sort & Filter group.
  - c. Click  to sort ascending or  for descending.
2. Perform for multiple columns from least important to most important to sort by more than one column. IE. Sort First name then Last name to sort names in "alphabetic order."
3. Complex sorts can also be performed with the Sort command.
4. Sorts are *dead*, they will not re-sort as data is altered. You must re-sort manually.

Pre evaluation listing



### B. Filter

1. Notes
  - a. Applying a filter hides rows that do not match selected criteria.
  - b. Notice blue row numbers and Filter symbol on column drop down to indicate a filter is on.
  - c. Filters are *dead*, they will not re-filter as data is altered. Unlike sorts, you can  the sort to refresh it.
  - d. To remove the filter and show all data again, use .
  - e. Saving will save the current filter, data will remain hidden, it is not lost.
  - f. Filters affect printing and copying and pasting.
2. Method



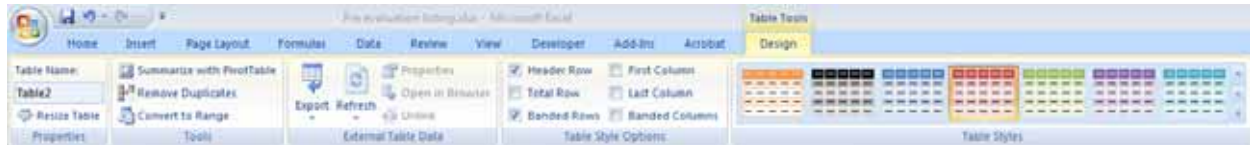
- a. Turn on the

- b. Filter with drop downs
  - i. Select one or more items from listing
  - ii. Date, number and text filters are available for flexible entry
  - iii. Notice sort options are also available.

## 28. Tables

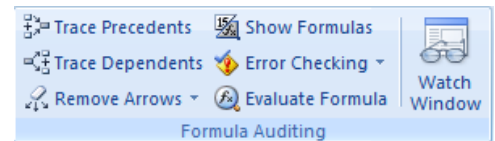
- A. Combines formatting and database functions
- B. Home ribbon, Styles group, Format as Table
- C. Is *live* in that rows are automatically added to the table and reformatted as filters are applied.
- D. Convert to range keeps formatting and turns off table functionality.

	A	B	C	D	E
1	FIRST	MI	LAST	DATE EVALU	TIME
9	SANDRA	K	AVERY	10/28/1993	8
11	GARY		BAILEY	10/28/1993	8
20	BOYD	E	BRANIFF	10/28/1993	8
23	WALTER	F	BROCKW.	10/28/1993	8
37	DENNIS	M	CHOLTCO	10/28/1993	8
45	WILLIAM	E	CUNNINGI	11/4/1993	8
47	PATRICK	C	DARGAN	10/26/1993	8
60	JEANNIE	C	EMERSON	11/4/1993	8
65	DICK	H	FLYNN	11/4/1993	8
67	JAMES	T	FREER	10/28/1993	8
70	LISA	K	FURNACE	10/28/1993	8
72	LUCINDA	R	GAMSBY	10/26/1993	8



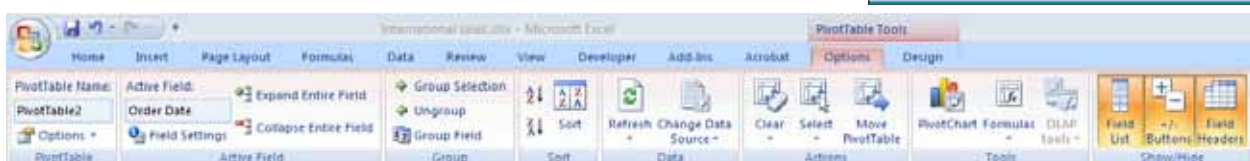
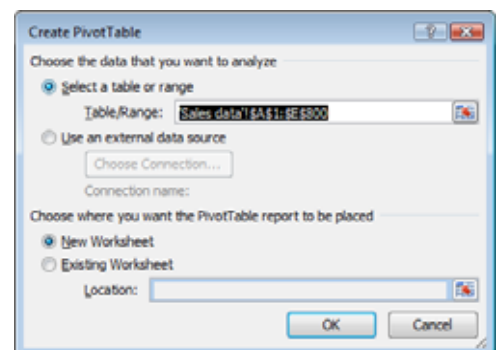
## 29. Troubleshooting formulas

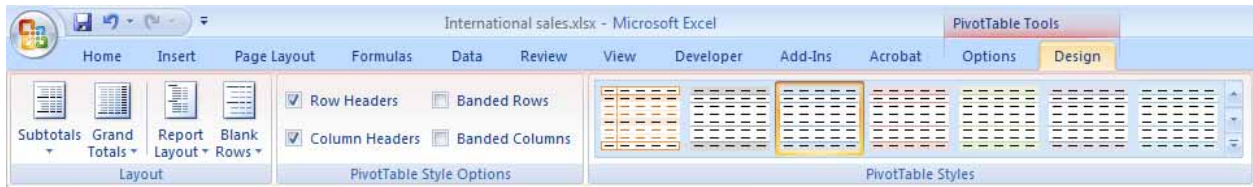
- A. Formulas ribbon, Formula Auditing group
- B. Show Formulas or Ctrl+' (apostrophe) toggles between displaying results and formulas.
- C. Trace Precedents draws arrows to indicate what cells are used in creating a formula.
- D. Trace Dependents indicates what formula use a selected cell.
- E. Remove Arrows makes your spreadsheet readable again.



## 30. PivotTable basics

- A. PivotTables allow the arrangement and summary of complicated data.
- B. Method
  1. Select a cell inside a database.
  2. Insert ribbon, PivotTable
  3. Insure the range is correct and select a location for the PivotTable. Click OK.
  4. In the resulting PivotTable task pane, drag fields to the areas below. Play with order and location!
- C. Note from Options ribbon
  1. Grouping
  2. Sort
  3. Refresh





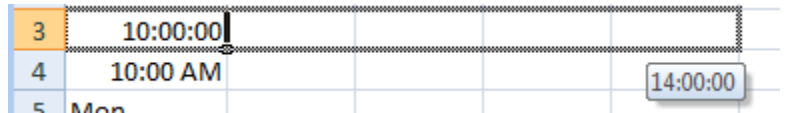
## 31. Items for review if needed

### A. Spreadsheet size

	Excel	
	<u>97-2003</u>	<u>2007</u>
Rows	65,536	1,048,576
Columns	256	16,384
Cells	16,777,216	17,179,869,184
Sheets	limited by memory	limited by memory

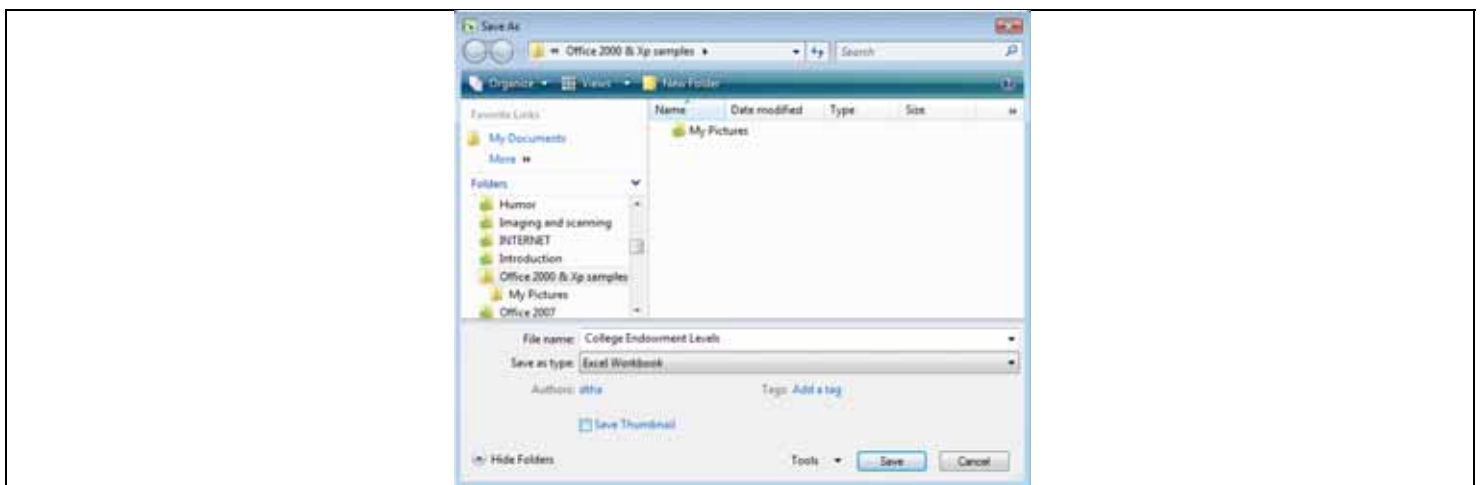
### B. Autofill

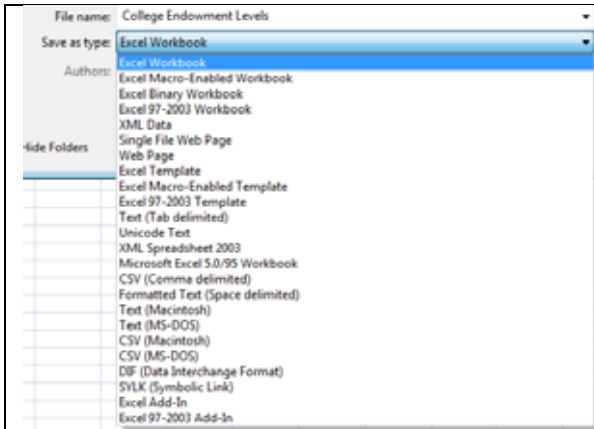
1. Editing inside a selected range using Tab / Shift+Tab and Enter / Shift+Enter
2. Speeds / accurate data entry
3. One direction at a time
4. Be sure to get a black + when trying to grab the autofill handle.
5. Custom autofills.
  - a. Tools, Options, Custom List
  - b. Enter manually or import list from cells



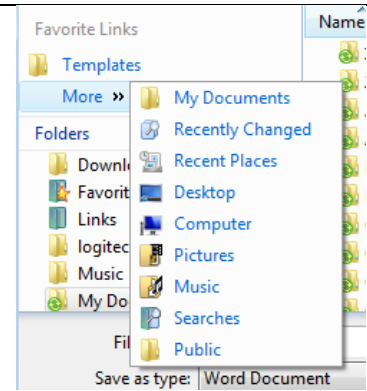
### C. Open and Close, Save and Save As...

1. Save makes a copy of the current document onto your hard disk, floppy drive, network drive, USB flash drive (USB memory key)...
2. Save As makes a new copy of the current document onto your hard disk, etc. by giving you the opportunity to give the file a new name and/or select a new location to save the document. Actually, any *new* Save is a Save As since you have the opportunity to select the document type and location





- a. Save As Type
  - i. Excel Document = 2007
  - ii. Excel 97-2003 Document = older type, larger, may not support all formatting



- iii. Favorites Links helps you select commonly used areas on your computer.

3. Open makes a copy of a stored document in your Excel application