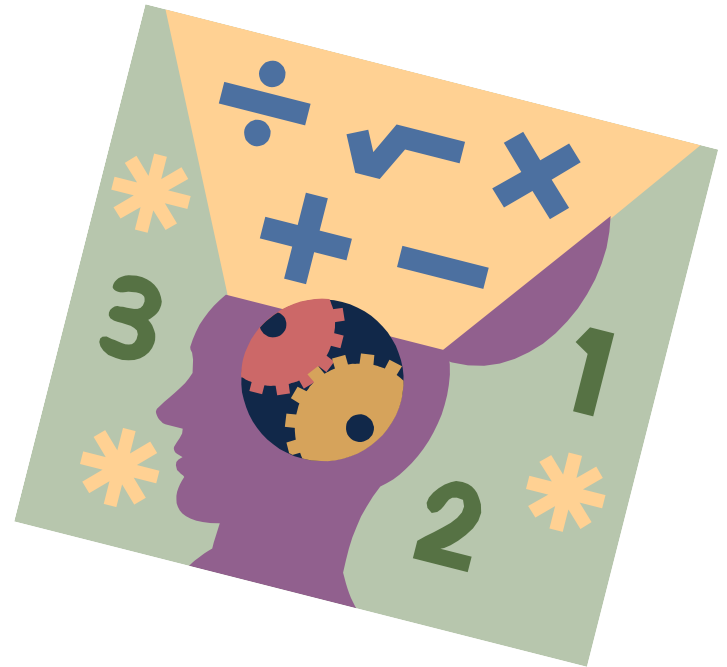


EXCEL 2

FORMULAS & FUNCTIONS



Input

A collection of information

Data typed into the spreadsheet

Output

Worksheet Results

Three types of information can be typed into a spreadsheet cell

- Labels
- Values
- Formulas

Labels

- Text entries
- Identify values in columns and rows
- Left-aligned
- Type an apostrophe (') before a number to treat the number like a label.
 - Examples:
 - '2007
 - '402-6900

Values

- Numbers
- To be used in calculations
- Right-aligned
- ##### size the cell larger
 - ##### appears if the number is too large for the size of the cell

Formulas

- Used to perform calculations
- Begin with = sign
- Type the cell address that contain the values you want to calculate
 - Examples of formulas:
 - =A5+A6+A7+A8
 - The values in cells A5, A6, A7 and A8 are added together

Arithmetic Operators

- Symbols that direct Excel to perform mathematical calculations

Arithmetic Operator	Definition	Example of usage	Meaning
+	Addition	=B3+C3	Add the value in B3 and the value in C3
-	Subtract	=F12-22	Subtract 22 from the contents of cell F12
*	Multiplication	=A3*B3	Multiply the value in cell A3 by the value in cell B3
/	Division	=C3/C6	Divide the contents of cell C3 by the contents of cell C6
^	Exponentiation	=C12^6	Raise the value in cell C12 to the sixth power

Order of Operation

- The order in which calculations in a formula are performed
- Excel follows the same order of operations that you use in Algebra
- Moving from left to right in formulas, the order of operations is as follows:
 1. Parenthesis
 2. Exponents
 3. Multiplication and division
 4. Addition and subtraction

Cell References

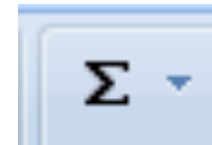
- Always use cell references in formulas. A cell reference is the column letter and the row number (ex. B2)

Why?

- By using cell references in the formula, you can use the powerful recalculation feature in Excel
- If you change the contents of a cell that is included in a formula, the worksheet will automatically recalculate it

Functions

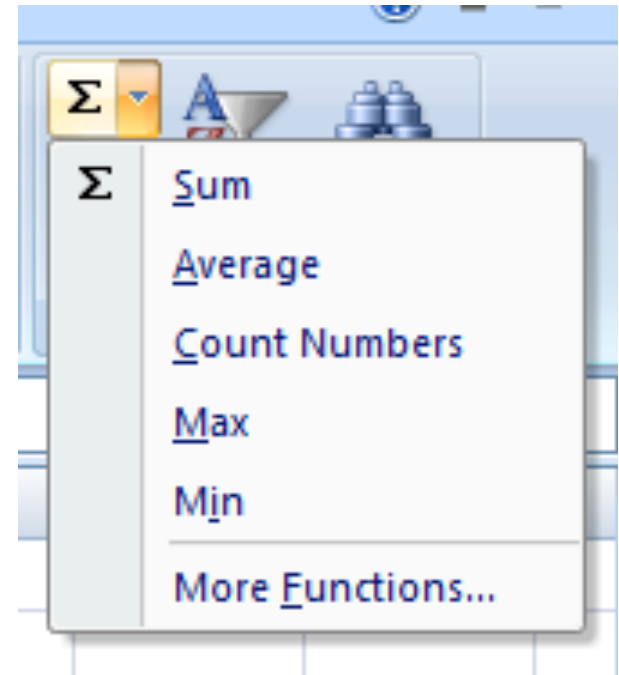
- Built in formulas
- Formulas and Functions begin with =
- Use the Formulas Menu, fx on the formulas bar, or AUTOSUM arrow



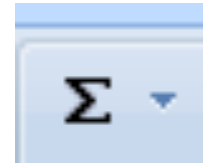
- Example of a function:
 - =AVERAGE(B13:D13)
 - Use a range of cells (B13:D13)
 - Colon means Excel will average cells B13 through D13

Common Functions

- **SUM**
 - Calculates the sum of a range of cells
- **MAX**
 - Displays the largest value in a range of cells
- **MIN**
 - Displays the smallest value in a range of cells
- **COUNT**
 - Calculates the number of values in a range of cells
- **AVERAGE**
 - Calculates the average of values in a range of cells



AUTOSUM



- Build in sum function
- Most commonly used function
- AUTOSUM adds the values above the active cell first (default)
- If no values are above the cell, it sums to the left of the active cell
- If Excel doesn't select the correct range, you may select the range you want

Cell Range

- Two or more cells
- A group of adjacent cells
- (B3:C12) includes all of the cells from B3 through C12
- Ranges can be named

Cell References

- **Relative** – adjusts to its new location when copied
- **Absolute** – Do not change when moved or copied to a new cell
- **Mixed** – contains both relative and absolute references
- Symbol used to make an absolute cell reference? \$
- F4 key will automatically put in a \$ in your formula

Printing Formulas

- Print formulas using
 - Ctrl + ` (the ` is found next to the #1 on the keyboard)
- Print to Fit on 1 page
- Formatting will be lost when printing formula page

EXCEL 2

FORMULAS & FUNCTIONS

