

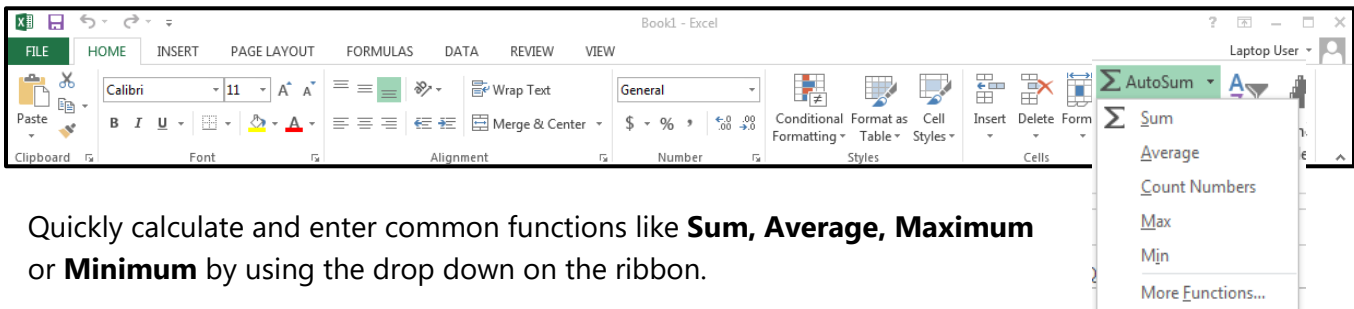
NOTES ON FORMULAS

- **Formula** – An expression that calculates a value. Starts with an =, you enter the cell addresses, operators or functions to do the calculations
- **Function** – Used in a formula, the operations needed have already been defined for you. Each function needs arguments and produces a result.
- A formula is entered in the cell in which the result is to be displayed =A1+A2
- A formula can include numbers, cell references or ranges, and **operators** (+ - / *)
- If possible, avoid typing numbers into a formula. Refer to the cell/ranges with the numbers in it.

ORDER OF OPERATIONS

- Formulas are calculated from left to right
- Any operation in parentheses is calculated first.
- Multiplication and division are always done before any addition or subtraction.
- Please **E**xcuse **M**y **D**ear **A**unt **S**ally to remember **P**arentheses, **E**xponents (not covered in this class), **M**ultiplication, **D**ivision, **A**ddition, and **S**ubtraction

QUICK ACCESS TO COMMON FUNCTIONS



Quickly calculate and enter common functions like **Sum, Average, Maximum** or **Minimum** by using the drop down on the ribbon.

Function	Purpose	Example	Result – See spreadsheet example on back
SUM	Summarizes the sum of the values.	=SUM(B2:B13)	1530
AVERAGE	The average of the values.	=AVERAGE(B2:B13)	127.5
COUNT	The number of items.	=COUNT(B2:B13)	12
MAX	The largest value.	=MAX(B2:B13)	155
MIN	The smallest value.	=MIN(B2:B13)	100
TODAY	Returns the current date.	=TODAY()	9/16/2015

CALCULATING PERCENTAGES

To calculate **% increase** (or **% difference**) use this:

(New Value – Old Value)/Old Value

Or, if you have a column with the difference already calculated, use **Difference/Old Value**

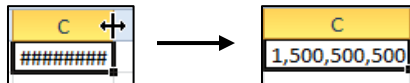
In the example on the right, the formula in cell **E2** is **=D2/B2 (2/100) = 0.02 2.0%**

Note: Cells **E2:E13** are formatted in the Percent format %

	A	B	C	D	E
1		Last Year	This Year	Difference	% Increase
2	January	100	102	2	2.0%
3	February	105	108	3	2.9%
4	March	110	114	4	3.6%
5	April	115	120	5	4.3%
6	May	120	126	6	5.0%
7	June	125	132	7	5.6%
8	July	130	138	8	6.2%
9	August	135	144	9	6.7%
10	September	140	150	10	7.1%
11	October	145	156	11	7.6%
12	November	150	162	12	8.0%
13	December	155	168	13	8.4%
14					
15	Total	1530			
16	Average	127.5			
17	Count	12			

TROUBLE SHOOTING TIPS

- When numbers suddenly change to **####** it means that the cell is too narrow to display them. Widen the column by placing the cursor on the column border and dragging it to the right until there is enough space.



- When a cell contains **#VALUE!**, the formula in the cell contains nonnumeric data or function names that cannot be used in the calculation.
- You will get a circular reference error if you have a formula that has a reference to the cell in which you want the calculation to appear
- A green triangle in the upper left corner of a cell means possible error. Click on the cell, then click on the **Warning** indication to the left of it.

