


# Formulas and Functions

- **Formulas are entered in a cell & must begin with equal sign “ = “.**
- **The formula includes:-**
  - An equal sign
  - Cell reference (cell address)
  - And the appropriate operands.
- **The formula is itself visible in the formula bar.**
- **A function is a predefined formula that performs a specialized calculation.**
- **Functions consist three parts:-**
  - The equal sign
  - The name of the function
  - And the arguments of the function.
- **An argument includes variable information and must be contained with in the parentheses.**

# Some common functions

<b><u>Function</u></b>	<b><u>Structure</u></b>	<b><u>Description</u></b>
<b>SUM</b>	<b>=SUM(A1:A100)</b>	<b>Finds the sum of cells A1 through A100</b>
<b>AVERAGE</b>	<b>=AVERAGE(B1:B10)</b>	<b>Finds the average of cells B1-B10</b>
<b>MAX</b>	<b>=MAX(C1:C100)</b>	<b>Returns the highest number from cells C1-C100</b>
<b>MIN</b>	<b>=MIN(D1:D100)</b>	<b>Returns the lowest number from cells D1-D100</b>
<b>SQRT</b>	<b>=SQRT(D10)</b>	<b>Finds the square root of the values in cell D10</b>
<b>TODAY</b>	<b>=TODAY()</b>	<b>Returns the current date (leave the parentheses empty)</b>

# Function Wizard

- Steps to insert function.
  - Click the cell where the function will be placed.
  - Click the Paste Function  button on the standard toolbar.
  - From the Paste function dialog box choose Function category and Function name.
  - Click Ok.
  - In the next window enter the range of cells to be inserted in the function.
  - If there are many range of cells, enter these ranges on the given box of the window → OK.

# AutoSum Function

- **AutoSum:**  $\Sigma$
- **The AutoSum Function adds the content of a cluster of adjacent cells.**
  - Select the cell destination.
  - Click the AutoSum button  $\Sigma$  on the standard toolbar.
  - Highlight (select) the cells to be added.
  - Press Enter Key.

# Relative and Absolute reference

- **Relative reference**: Calling cells by their column and row labels (such as “A1”).
- If a formula contains relative reference and is copied to other cell then Excel does not create an exact copy of the formula.
- It will change cell addresses relative to the row and column they are moved to.
- E.g. If we copy the formula “=(A1+B1)” in C1 to C2; the formula will be changed to “=(A2+B2)”.
- **Absolute Reference**:- Here the address of the cells remain constant and they will not change when they are copied to another cell.
- This can be done by placing the dollar sign “\$” with in the cell addresses in the formula.
- E.g. if the formula in C1; =\$A\$1+\$B\$1 is copied to cell C2 it will still return the sum of A1 and B1.

## ...Reference

- **Mixed Reference**
- This is applied where only the Row OR Column is *fixed*.
- E.g. in the formula “ $= (A\$1 + \$B2)$ ”, the row of cell A1 is fixed and the column of cell B2 is fixed.