

# Assignment- 3

Math & Trigonometry Functions, Referencing,  
Naming, Ranges.

## 1. SUMIF FUNCTION.

- Adds values that meet a specific conditions
- Syntax: =SUMIF (range, criteria, [sum-range]).

## 2. SUM V SUMPRODUCT.

- SUM adds values directly from a range
- SUMPRODUCT multiplies corresponding arrays and then sums the results.
- SUMPRODUCT is useful for weighted calculations and complex conditions.

## 3. ROUND, ROUNDUP, ROUNDDOWN.

- ROUND: Rounds a number to specified digits Example  $1.2 \rightarrow 1, 1.5 \rightarrow 1.5$
- ROUNDUP: Always rounds the number upward Example  $1.1 \rightarrow 2, 1.9 \rightarrow 2$ .
- ROUNDDOWN: Always rounds the number downward Example  $1.9 \rightarrow 1$ .

## 4. COUNTIF Function

- Counts cell that meet a given conditions
- Syntax: =COUNTIF (range, criterion).
- Example: =COUNTIF (A1:A10, ">50")  
Counts values greater than 50.

## 5. PI Function.

1. Returns the value of  $\pi$  approx 3.14159
2. Used in circle and trigonometric calculations.

3. Example =  $\text{PI}() * A1^2$  calculates area of a circle.

## 6. SIN, COS, TAN Functions.

1. Used to calculate trigonometric values of angles.
2. Angles must be given in radians, not degrees.
3. Example =  $\text{SIN}(\text{RADIANS}(30))$  returns Sine of  $30^\circ$ .

## 7. Naming Ranges - Benefits.

1. Makes formulas easier to read and understand.
2. Reduces error in large worksheets.
3. Simplifies range management and reuse.

## 8. Dynamic Named Ranges.

1. Automatically adjust when data size changes.
2. Created using formulas like OFFSET or INDEX.
3. Useful for dashboards and dynamic charts.

## 9. Referencing Another Worksheet.

1. Use the format .sheetName! cell Reference
2. Example := Sheet2! A1
3. Allows data sharing between multiple worksheets.

## 10. Array formula.

1. Performs multiple calculations on a range at once.
2. works on arrays instead of single values.
3. Differs from regular formulas by handling multiple results simultaneously.

=sum(A1:A5 \* B1:B5)  
  ↑                      ↑  
  Array 1      Array 2 .