

Assignment- 3

Math & Trigonometry Functions, Referencing, Naming Ranges.

1. SUMIF FUNCTION.

- Adds values that meet a specific conditions
- Syntax: $=\text{SUMIF}(\text{range}, \text{criteria}, [\text{sum_range}])$.

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: $=\text{COUNTIF}(\text{range}, \text{criteria})$.
- Example: $=\text{COUNTIF}(A1:A10, ">50")$
Counts values greater than 50.

5. PI Function.

1. Returns the value of π approx 3.14159
2. Used in circle and trigonometric calculations.
3. Example = $PI() * A1^2$ 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 = $SIN(RADIANS(30))$ returns sine of 30° .

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: $sheetName!cellReference$
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.