1. **DAX** — Data Analysis Expressions (formula language for Power BI, Excel, SSAS).
2. **Sum of Sales:**

Total Sales = SUM('Sheet1'[Sales])

3. **Difference:**

- Calculated Column → row by row, stored in the table.
- Measure → calculated dynamically, depends on filters.

4. **Profit Margin:**

Profit Margin = DIVIDE(SUM('Sheet1'[Sales]) - SUM('Sheet1'[Cost]), SUM('Sheet1'[Sales]))

5. **COUNTROWS()** — returns the number of rows in a table (or filtered table).
6. **Total Profit:**

Total Profit = SUM('Sheet1'[Sales]) - SUM('Sheet1'[Cost])

7. **Average Sales per Product:**

Avg Sales per Product = DIVIDE(SUM('Sheet1'[Sales]),
DISTINCTCOUNT('Sheet1'[ProductID]))

8. **Profit Tag:**

Profit Tag = IF(('Sheet1'[Sales] - 'Sheet1'[Cost]) > 1000, "High Profit", "Low Profit")

9. **Circular dependency error** — happens when a column depends on itself (directly or indirectly).
10. **Row context vs. Filter context:**

- Row context → row-by-row calculation.
- Filter context → filters applied by visuals, slicers, relationships.

11. **YTD Sales:**

YTD Sales = TOTALYTD(SUM('Sheet1'[Sales]), 'Sheet1'[Date])

12. **Dynamic Measure (switch between Sales, Profit, Margin):**

```
Selected Metric =
SWITCH(
  SELECTEDVALUE('Metric Selector'[Metric]),
  "Sales", SUM('Sheet1'[Sales]),
  "Profit", SUM('Sheet1'[Sales]) - SUM('Sheet1'[Cost]),
  "Margin", DIVIDE(SUM('Sheet1'[Sales]) - SUM('Sheet1'[Cost]), SUM('Sheet1'[Sales]))
)
```

13. **Optimization with VAR:**

```
Profit Margin =

VAR Sales = SUM('Sheet1'[Sales])

VAR Cost  = SUM('Sheet1'[Cost])

RETURN DIVIDE(Sales - Cost, Sales)
```

14. **CALCULATE overriding a filter:**

```
All Region Sales = CALCULATE(SUM('Sheet1'[Sales]), ALL('Sheet1'[Region]))
```

15. **Max Sales:**

```
Max Sales = MAX('Sheet1'[Sales])
```