**STEP 1: Load Data**

Open Power BI Desktop.

Go to .

Browse and open SalesData\_DAX\_Example.xlsx.

Select the SalesData sheet and click Load.

**STEP 2: Create Basic Measures**

Go to the Data view (the table icon on the left).

Click on the SalesDataNew measure and add the following:

1. Total Sales

Total Sales = SUMX(SalesData, SalesData[Quantity] \* SalesData[Price])

2. Total Discount

Total Discount = SUMX(SalesData, SalesData[Quantity] \* SalesData[Price] \* SalesData[Discount])

3. Net Sales

Net Sales = [Total Sales] - [Total Discount]

4. Average Price

Avg Price = AVERAGE(SalesData[Price])

5. Total Quantity

Total Quantity = SUM(SalesData[Quantity])

**STEP 3: Create Calculated Columns**

Click on the SalesDataNew column.

Line Total

Line Total = SalesData[Quantity] \* SalesData[Price]

% Discount Per Order

Percent Discount = SalesData[Discount] \* 100

Profit (Assume cost ₹3 per unit)

Profit = (SalesData[Price] - 3) \* SalesData[Quantity]

Profit After Discount

Profit After Discount = (SalesData[Price] - 3) \* SalesData[Quantity] \* (1 - SalesData[Discount])

Days Since Order

Days Since Order = DATEDIFF(SalesData[Date], TODAY(), DAY)

**STEP 4: Create Visuals**

**Clustered Column Chart**

Axis: Region

Values: Total Sales

**Matrix Table**

Rows: Customer

Columns: Product

Values: Total Quantity, Total Sales

**Card Visuals**

Add Cards for:

Total Sales

Net Sales

Total Discount

**Line Chart**

Axis: Date

Values: Net Sales

**STEP 5: Time Intelligence**

**1. Create a Date Table:**

Go to

DateTable = CALENDAR(MIN(SalesData[Date]), MAX(SalesData[Date]))

**2. Create Relationship:**

Go to Model view.

Drag SalesData[Date] to DateTable[Date] to create a relationship.

**3. Create Measures:**

Sales MTD

Sales MTD = TOTALMTD([Net Sales], 'DateTable'[Date])

Sales YTD

Sales YTD = TOTALYTD([Net Sales], 'DateTable'[Date])

**Advanced Measures**

**Highest Sale by Customer**

Highest Customer Sale =

MAXX(

VALUES(SalesData[Customer]),

CALCULATE(SUMX(SalesData, SalesData[Quantity] \* SalesData[Price]))

)

**Sales Rank by Region**

Why use RANKX?

* - Ranks data based on a measure.
* - Can be used to compare across categories like Region or Customer.
* - Supports ascending or descending order.

Sales Rank =

RANKX(

ALL(SalesData[Region]),

CALCULATE(SUM(SalesData[Quantity] \* SalesData[Price])),

,

DESC

)

**Cumulative Sales**

Cumulative Sales =

CALCULATE(

[Net Sales],

FILTER(

ALL('DateTable'[Date]),

'DateTable'[Date] <= MAX('DateTable'[Date])

)

)

**Sales vs Average**

Sales vs Average =

[Net Sales] - AVERAGEX(ALL(SalesData), [Net Sales])

**Sales This Month**

Sales This Month =

CALCULATE(

[Net Sales],

MONTH(SalesData[Date]) = MONTH(TODAY())

)

**First and Last Purchase Date**

First Purchase = CALCULATE(MIN(SalesData[Date]))

Last Purchase = CALCULATE(MAX(SalesData[Date]))

### Power Functions in DAX

These are used to calculate powers, square roots, etc.

Add under Calculated Columns or a new section called "Math Functions Practice":

**Square of Price**

Price Squared = POWER(SalesData[Price], 2)

**Root of Quantity**

Sqrt Quantity = POWER(SalesData[Quantity], 0.5)

### Filter Functions in DAX

These allow context manipulation for advanced calculations.

Add under Advanced Measures:

**High-Value Orders Only (above ₹500):**

High Value Sales =

CALCULATE(

[Net Sales],

FILTER(SalesData, SalesData[Quantity] \* SalesData[Price] > 500)

)

**Sales for Specific Region (e.g., ‘North’):**

North Region Sales =

CALCULATE(

[Net Sales],

SalesData[Region] = "North"

)

**Sales Excluding Discounts:**

Sales No Discount =

CALCULATE(

[Net Sales],

SalesData[Discount] = 0

)