Sum,min,max,avg,

Count,countblank, countdistinct, countrows

Sumx,avgx,minx,maxx

Data Types and Conversion

Value, format, convert

Error Handling in DAX

Blank, isblank, iferror,

Logical Functions

If , switch

Division

DIVIDE(/)

Time Intelligence Functions

Dateadd, d TOTALYTD,

Table Functions

SUMMARIZECOLUMNS

GENERATE

GROUPBY

SUMMARIZE

TOPN

To create a sample dataset and business questions, we can use a fictional sales data scenario. Let's generate a dataset with 50 data points and define relevant business questions. Here is the dataset and the business questions:

### Sample Dataset

| Date | Salesperson | CustomerID | Product | Quantity | Price | SalesAmount | Profit | Region |

|------------|-------------|------------|-----------|----------|-------|-------------|--------|-----------|

| 2024-01-01 | Alice | C001 | Product A | 10 | 100 | 1000 | 300 | North |

| 2024-01-02 | Bob | C002 | Product B | 5 | 200 | 1000 | 250 | South |

| 2024-01-03 | Carol | C003 | Product C | 7 | 150 | 1050 | 280 | East |

| 2024-01-04 | Dave | C004 | Product D | 3 | 300 | 900 | 200 | West |

| 2024-01-05 | Eve | C005 | Product E | 4 | 250 | 1000 | 220 | North |

| 2024-01-06 | Frank | C006 | Product A | 6 | 100 | 600 | 180 | South |

| 2024-01-07 | Grace | C007 | Product B | 8 | 200 | 1600 | 400 | East |

| 2024-01-08 | Alice | C008 | Product C | 2 | 150 | 300 | 80 | West |

| 2024-01-09 | Bob | C009 | Product D | 1 | 300 | 300 | 60 | North |

| 2024-01-10 | Carol | C010 | Product E | 9 | 250 | 2250 | 500 | South |

| ... | ... | ... | ... | ... | ... | ... | ... | ... |

\*Note: This is a truncated table with a pattern to generate 50 data points. We can create a CSV file if needed.\*

### Business Questions

1. \*\*Total Sales:\*\*

- What is the total sales amount for the entire dataset?

2. \*\*Average Sales per Salesperson:\*\*

- What is the average sales amount per salesperson?

3. \*\*Total Profit:\*\*

- What is the total profit for the entire dataset?

4. \*\*Sales by Region:\*\*

- What is the total sales amount for each region?

5. \*\*Top Performing Salesperson:\*\*

- Who is the top-performing salesperson based on total sales amount?

6. \*\*Product Performance:\*\*

- What is the total sales amount for each product?

7. \*\*Monthly Sales:\*\*

- What are the total sales amounts for each month?

8. \*\*Customer Analysis:\*\*

- How many unique customers made purchases?

9. \*\*Profit Margin:\*\*

- What is the average profit margin for each product?

10. \*\*High-Value Sales:\*\*

- Which sales transactions had a sales amount greater than $1000?

### DAX Formulas for Analysis

1. \*\*Total Sales\*\*

```DAX

Total Sales = SUM(Sales[SalesAmount])

```

2. \*\*Average Sales per Salesperson\*\*

```DAX

Average Sales per Salesperson = AVERAGEX(SUMMARIZE(Sales, Sales[Salesperson], "Sales", SUM(Sales[SalesAmount])), [Sales])

```

3. \*\*Total Profit\*\*

```DAX

Total Profit = SUM(Sales[Profit])

```

4. \*\*Sales by Region\*\*

```DAX

Sales by Region = SUMMARIZE(Sales, Sales[Region], "Total Sales", SUM(Sales[SalesAmount]))

```

5. \*\*Top Performing Salesperson\*\*

```DAX

Top Salesperson = TOPN(1, SUMMARIZE(Sales, Sales[Salesperson], "Total Sales", SUM(Sales[SalesAmount])), [Total Sales], DESC)

```

6. \*\*Product Performance\*\*

```DAX

Sales by Product = SUMMARIZE(Sales, Sales[Product], "Total Sales", SUM(Sales[SalesAmount]))

```

7. \*\*Monthly Sales\*\*

```DAX

Monthly Sales = SUMMARIZE(Sales, FORMAT(Sales[Date], "YYYY-MM"), "Total Sales", SUM(Sales[SalesAmount]))

```

8. \*\*Unique Customers\*\*

```DAX

Unique Customers = DISTINCTCOUNT(Sales[CustomerID])

```

9. \*\*Profit Margin\*\*

```DAX

Profit Margin = DIVIDE(SUM(Sales[Profit]), SUM(Sales[SalesAmount]), 0)

```

10. \*\*High-Value Sales\*\*

```DAX

High Value Sales = FILTER(Sales, Sales[SalesAmount] > 1000)

```

These DAX formulas can be used to answer the business questions using the sample dataset provided. If you need the dataset in a CSV file format or any specific calculation, let me know!