DAX Basics & Calculated Columns vs. Measures - Answers

1. What does DAX stand for?

DAX stands for Data Analysis Expressions. It is a formula language used in Power BI, Excel Power Pivot, and Analysis Services for creating custom calculations.

2. Write a DAX formula to sum the Sales column.

Formula: Total Sales = SUM(DAX_Practice_Data[Sales])

3. What is the difference between a calculated column and a measure?

Calculated Column: Calculated for each row in the table, stored in the model, and can be used like any other column.
Measure: Calculated on the fly based on filter context, not stored, and is ideal for aggregations.

4. Use the DIVIDE function to calculate Profit Margin (Profit/Sales).

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

5. What does COUNTROWS() do in DAX?

It counts the number of rows in a table or a table expression.

6. Create a measure: Total Profit that subtracts total cost from total sales.

Total Profit = SUM(DAX_Practice_Data[Sales]) - SUM(DAX_Practice_Data[Cost])

7. Write a measure to calculate Average Sales per Product.

Average Sales = AVERAGE(DAX_Practice_Data[Sales])

8. Use IF() to tag products as 'High Profit' if Profit > 1000.

High Profit Tag = IF(DAX_Practice_Data[Profit] > 1000, "High Profit", "Low Profit")

9. What is a circular dependency error in a calculated column?

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It occurs when a column's calculation depends on itself, directly or indirectly, creating a loop.

10. Explain row context vs. filter context.

Row Context: Evaluation within a single row of a table.

Filter Context: Evaluation affected by filters applied from visuals, slicers, or other calculations.

11. Write a measure to calculate YTD Sales using TOTALYTD().

YTD Sales = TOTALYTD(SUM(DAX_Practice_Data[Sales]), DAX_Practice_Data[Date])

12. Create a dynamic measure that switches between Sales, Profit, and Margin.

Use the SELECTEDVALUE() function with a supporting disconnected table to allow dynamic switching between measures.

13. Optimize a slow DAX measure using variables (VAR).

Using VAR allows storing intermediate results and reusing them, reducing recalculations for better performance.

14. Use CALCULATE() to override a filter.

Example: Sales All Regions = CALCULATE(SUM(DAX_Practice_Data[Sales]), ALL(DAX_Practice_Data[Region]))

15. Write a measure that returns the highest sales amount.

Max Sales = MAX(DAX_Practice_Data[Sales])