1. What does DAX stand for?
   Data Analysis Expressions — the formula language used in Power BI, Excel Power Pivot, and SSAS Tabular.
2. Sum the Sales column (measure):
   DAX
   КопироватьРедактировать
   Total Sales = SUM(DAX_Practice_Data[Sales])
3. Calculated column vs. measure (difference):

- Calculated column: computed row-by-row at data refresh, stored in the model, has row context.
- Measure: computed on the fly at query time, not stored, depends on filter context and usually aggregates.

4. Profit Margin using DIVIDE (Profit / Sales):
   DAX
   КопироватьРедактировать
   Total Cost = SUM(DAX_Practice_Data[Cost])
   Total Profit = [Total Sales] - [Total Cost]
   Profit Margin % = DIVIDE([Total Profit], [Total Sales])
5. What does COUNTROWS() do?
   Returns the number of rows in a table or table expression under the current filter context.
6. Measure: Total Profit (Sales – Cost):
   DAX
   КопироватьРедактировать
   Total Profit = [Total Sales] - [Total Cost]
7. Average Sales per Product (measure):
   DAX
   КопироватьРедактировать
   Average Sales per Product =
   AVERAGEX(VALUES(DAX_Practice_Data[ProductID]), [Total Sales])
8. Tag products “High Profit” if Profit > 1000:
   As a calculated column (per row):
   DAX
   КопироватьРедактировать
   High Profit Tag =
   IF (DAX_Practice_Data[Sales] - DAX_Practice_Data[Cost] > 1000,
   "High Profit", "Other")
   (If you need a measure-driven label in a visual, use SELECTEDVALUE(ProductID) with a similar IF around [Total Profit].)
9. Circular dependency error (what is it)?
   An error when a column/measure directly or indirectly depends on itself, forming a loop, so the engine can’t determine a calculation order.
10. Row context vs. Filter context:

- Row context: the “current row” during a row-by-row calculation (e.g., calculated columns, iterators like SUMX).

- Filter context: the set of filters (from slicers, visuals, CALCULATE) that determines which rows are visible for an evaluation.

11. YTD Sales using TOTALYTD():
    DAX
    КопироватьРедактировать
    YTD Sales = TOTALYTD([Total Sales], DAX_Practice_Data[Date])
    (Works best with a proper Date table marked as Date Table.)
12. Dynamic measure switching (Sales / Profit / Margin):
    Create a disconnected table Metric with rows: *Sales, Profit, Margin*. Then:
    DAX
    КопироватьРедактировать
    Selected Metric Value =
    SWITCH(SELECTEDVALUE(Metric[MetricName], "Sales"),
       "Profit", [Total Profit],
       "Margin", [Profit Margin %],
       [Total Sales]
)
13. Optimize a slow measure using VAR (example):
    DAX
    КопироватьРедактировать
    Profit Margin % (Optimized) =
    VAR SalesTotal = [Total Sales]
    VAR ProfitTotal = [Total Profit]
    RETURN DIVIDE(ProfitTotal, SalesTotal)
    Variables compute once and reuse the result—fewer repeated calculations.
14. Use CALCULATE() to override a filter (example ignore Product):
    DAX
    КопироватьРедактировать
    Sales (Ignore Product) =
    CALCULATE([Total Sales], ALL(DAX_Practice_Data[ProductID]))
    Removes any ProductID filter while keeping others (e.g., Date).
15. Measure that returns the highest sales amount:
    DAX
    КопироватьРедактировать
    Max Sales =
    MAXX(ALL(DAX_Practice_Data[ProductID]), [Total Sales])
    (Robust even if there are multiple rows per product; ignores Product filters.)