1. What is row context? Give an example in a calculated column.

   A row context is a context that always contains a single row and DAX automatically defines it during the creation of calculated columns.
   From the given table, Total Price = Quantity * UnitPrice can be an example.
   In this calculated column, DAX evaluates the value row by row.

2. Write a measure that finds total sales

   Total Sales = SUM(Sales[UnitPrice])

3. Use RELATED to fetch the Name from the Customers table into the Sales table.

   Here is the DAX code for a calulcated column in Sales table.:
   CustomerName = RELATED(Customers[Name])

4. What does CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics") return?

   It returns all the Quantity by the “Electronics” category in the Sales table.

5. Explain the difference between VAR and RETURN in DAX.

   VAR allows the user to define variables and also allows to store intermediate calculations. This makes the code more readable and efficient.
   RETURN specifies the final result of an expression and specifies which expression should be returned as the final result of the measure.

6. Create a calculated column in Sales called TotalPrice using row context (Quantity * UnitPrice).

   TotalPrice = Sales[Quantity] * Sales[UnitPrice]

7. Write a measure Electronics Sales using CALCULATE to sum sales only for the "Electronics" category.

   Electronics Sales = CALCULATE(SUM(Sales[TotalPrice]), Sales[Category] = "Electronics")

8. Use ALL(Sales[Category]) in a measure to show total sales ignoring category filters.

TotalSalesIgnoringCategories = CALCULATE(SUM(Sales[TotalPrice]), ALL(Sales[Category]))

9. Fix this error: A calculated column in Sales uses RELATED(Customers[Region]) but returns blanks.

   Region = IF(ISBLANK(RELATED(Customers[Region])), "Unknown", RELATED(Customers[Region]))

10. Why does CALCULATE override existing filters?

    Because its filter arguments define a new filter context for evaluating the expression it's modifying. The new context replaces the existing filters on the same columns used in the CALCULATE's filter arguments.

11. Write a measure that returns average unitprice of products

    AverageUnitPrice = AVERAGE(Sales[UnitPrice])

12. Use VAR to store a temporary table of high-quantity sales (Quantity > 2), then count rows.

    ```
    HighQuantity =
    VAR HQ_sales = FILTER(Sales, Sales[Quantity] > 2)
    RETURN
    COUNTROWS(HQ_sales)
    ```

13. Write a measure % of Category Sales that shows each sale's contribution to its category total.

    ```
    % of Category Sales =
    DIVIDE(
       Sales[Total Sales],
       CALCULATE(
          SUM(Sales[TotalPrice]),
          ALLEXCEPT(Sales, Sales[Category])
       )
    )
    ```

14. Simulate a "remove filters" button using ALL in a measure.

TotalSalesNoFilters = CALCULATE(SUM(Sales[TotalPrice]), ALL(Sales))

15. Troubleshoot: A CALCULATE measure ignores a slicer. What's the likely cause?

    If CALCULATE function ignores a slicer, there might be ALL, ALLEXCEPT, ALLSELECTED functions which ignores any filter slicer. These functions can remove filters and override filter contexts.