

☑ 1. What is Row Context? Give an example in a Calculated Column

Row Context — bu har bir qatordagi qiymatlar asosida hisoblash. Calculated column yaratilganda avtomatik tarzda mavjud bo‘ladi.

Example:

```
dax
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LineTotal = Sales[Quantity] * Sales[UnitPrice]
```

Har bir qator uchun `Quantity` va `UnitPrice` qiymatlari olinib ko‘paytiriladi.

☑ 2. Write a measure that finds total sales

```
dax
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Total Sales = SUMX(Sales, Sales[Quantity] * Sales[UnitPrice])
```

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

Assumption: `Sales[CustomerID]` ↔ `Customers[CustomerID]` munosabat bor.

```
dax
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Customer Name = RELATED(Customers[Name])
```

☑ 4. What does this return?

```
dax
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CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")
```

It returns:

Umumiy `Quantity` qiymati, lekin **faqat "Electronics"** kategoriyaga tegishli qatorlardan.

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

- **VAR** — vaqtincha o‘zgaruvchi yaratadi (qiymat yoki jadvallarni saqlaydi)
- **RETURN** — hisoblashning yakuniy natijasini chiqaradi

Example:

```
dax
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ElectronicsQty =
```

```
VAR Qty = CALCULATE(SUM(Sales[Quantity]), Sales[Category] = "Electronics")
RETURN Qty
```

☒ **6. Create a calculated column in Sales called TotalPrice using row context**

```
dax
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TotalPrice = Sales[Quantity] * Sales[UnitPrice]
```

☒ **7. Write a measure Electronics Sales using CALCULATE to sum sales only for "Electronics"**

```
dax
CopyEdit
Electronics Sales =
CALCULATE(
    SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),
    Sales[Category] = "Electronics"
)
```

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

```
dax
CopyEdit
Total Sales All Categories =
CALCULATE(
    SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),
    ALL(Sales[Category])
)
```

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

Cause: Munosabat (relationship) yo‘q yoki noto‘g‘ri yo‘nalishda.

Fix: Sales[CustomerID] bilan Customers[CustomerID] o‘rtasida **one-to-many** relationship bo‘lishi kerak.

☒ **10. Why does CALCULATE override existing filters?**

CALCULATE () DAX formulaga **yangi filter context** qo‘shadi yoki mavjudlarini **almashtiradi**, bu DAX'ning asosiy xususiyatidir. Shu bilan natijani ixtiyoriy kontekstda hisoblash mumkin.

☒ **11. Write a measure that returns average UnitPrice of products**

```
dax
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Avg Unit Price = AVERAGE(Sales[UnitPrice])
```

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

```
dax
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HighQtySalesCount =
VAR HighQty = FILTER(Sales, Sales[Quantity] > 2)
RETURN COUNTROWS(HighQty)
```

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

```
dax
CopyEdit
% of Category Sales =
DIVIDE(
    Sales[Quantity] * Sales[UnitPrice],
    CALCULATE(
        SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),
        ALLEXCEPT(Sales, Sales[Category])
    )
)
```

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

```
dax
CopyEdit
Sales Without Filters =
CALCULATE(
    SUMX(Sales, Sales[Quantity] * Sales[UnitPrice]),
    ALL(Sales)
)
```

Slicerlar bo'lsa ham, bu measure **ulardan butunlay mustaqil natija beradi.**

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

Sabablar:

- `ALL(...)` ishlatilgan bo'lishi mumkin (filterni olib tashlaydi)
- `USERELATIONSHIP()` ishlatilmayapti (yashirin relationship faollashtirilmagan)
- Visualdagi slicer noto'g'ri ustunga ulangan
- Tabular relationships noto'g'ri o'rnatilgan