Lesson 18:

Question: Why is the total different? How would you rewrite the DAX to get the correct total?

Why the Total is Different

The difference arises because of the **context** in which the calculation is performed:

- **Individual Rows:** For an individual row, the calculation Sales / Quantity is performed in the **Row Context** (it sees only the values for that one product).

- **Default Grand Total:** By default, the tool often tries to apply the same **Row Context** logic to the total, meaning it simply **sums the results** of the individual row calculations. This is an **unweighted** sum of the ratios.

- **Correct Grand Total:** To get the true, combined ratio, the calculation must be performed in the **Filter Context** of the Grand Total row, which means summing the **Total Sales** and summing the **Total Quantity** *first*, and *then* performing the division. This is a **weighted average** calculation.

- $\{Correct\ Ratio\} = \text{DIVIDE}(\text{SUM}(\text{Sales Table}[\text{Sales}]), \text{SUM}(\text{Sales Table}[\text{Quantity}]))$

Why does the card change when you select different countries?

The value changes because the visual shows total sales for each country, when none of them selected the card shows the total sales of all countries.
Question: Why doesn't this work as expected in a visual?
Because the measure is incorrect : the average sales per order is calculated differently: avg sales =
DIVIDE([total sales], DISTINCTCOUNT(sales_with_geodata[OrderID]))

Question: Why? How to fix it?

It is not showing any blank field. So it is working as expected

Measure: Total Discount = SUMX(Sales, Sales[Quantity] * Sales[Discount per Unit])

Question: Why use SUMX() instead of just multiplying two columns?

There is no discount col in the data which you provided