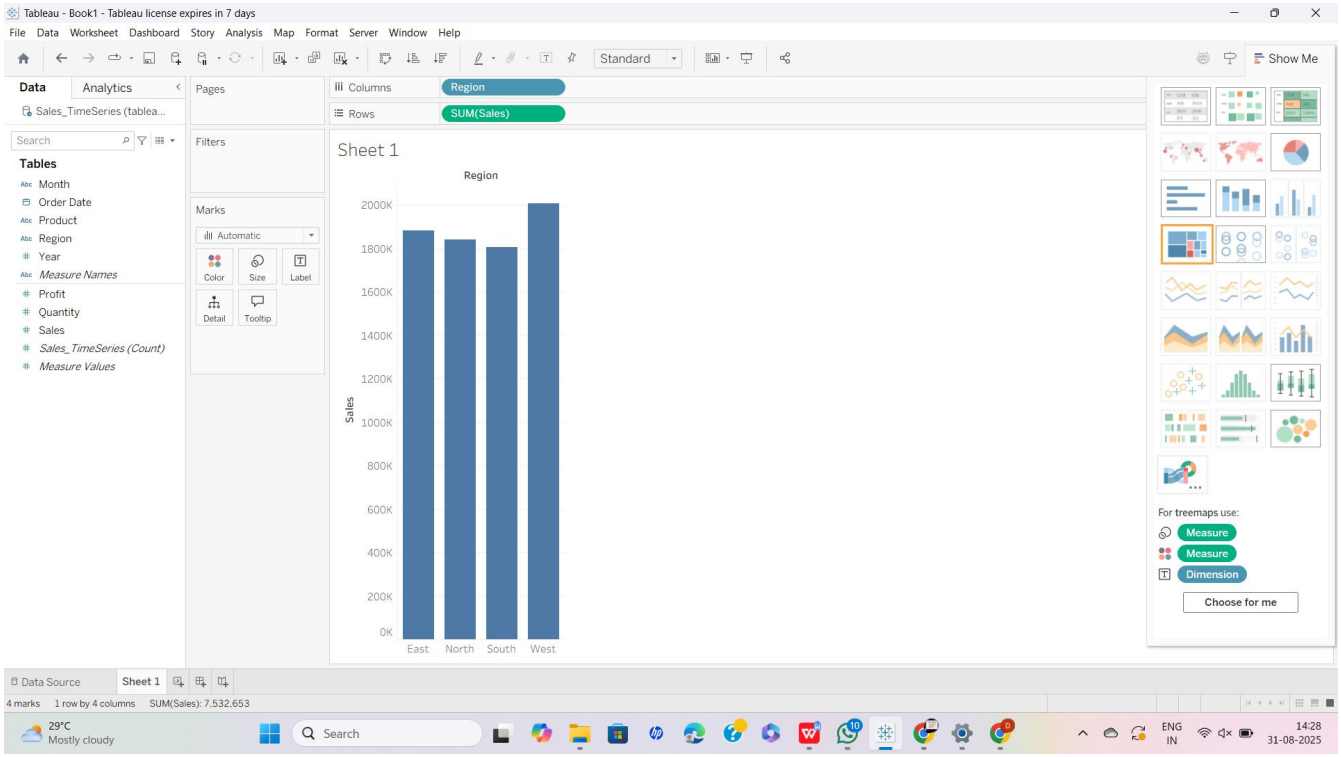
DATA VISLUALIZATION EXPERIMENTS

7 a) Tableau calculations: sum, avg, aggregate, create custom calculations and fields.

1. Open the dataset
2. Open Tableau.
3. Connect to the file tableau_lab_dataset.xlsx.
4. Drag Sales_TimeSeries sheet into the canvas → click Sheet 1.

SUM Calculation (Total Sales)

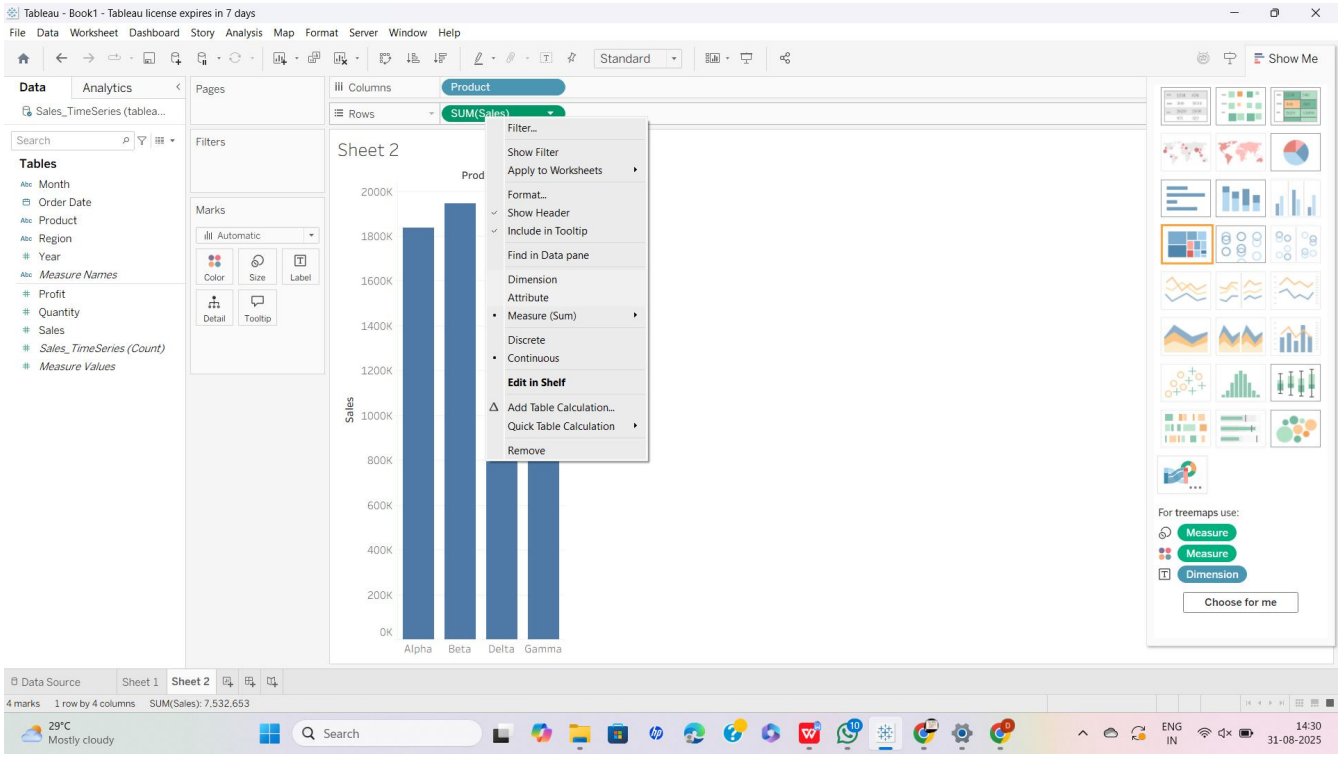
1. Drag Sales to Rows.
2. Drag Region to Columns.
3. By default, Tableau applies SUM(Sales) — meaning it is adding all sales for each region.
4. Formula internally: SUM([Sales]).
5. You see bars showing total sales per region.

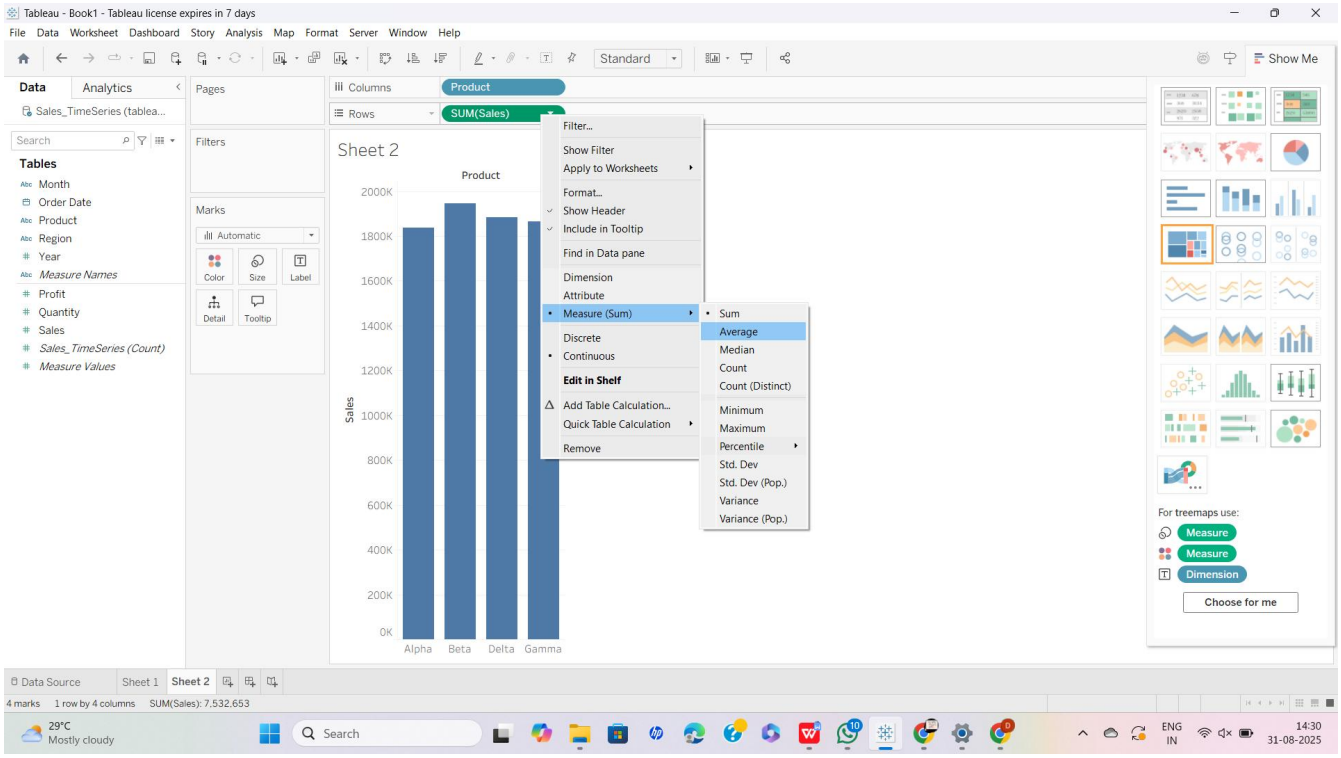


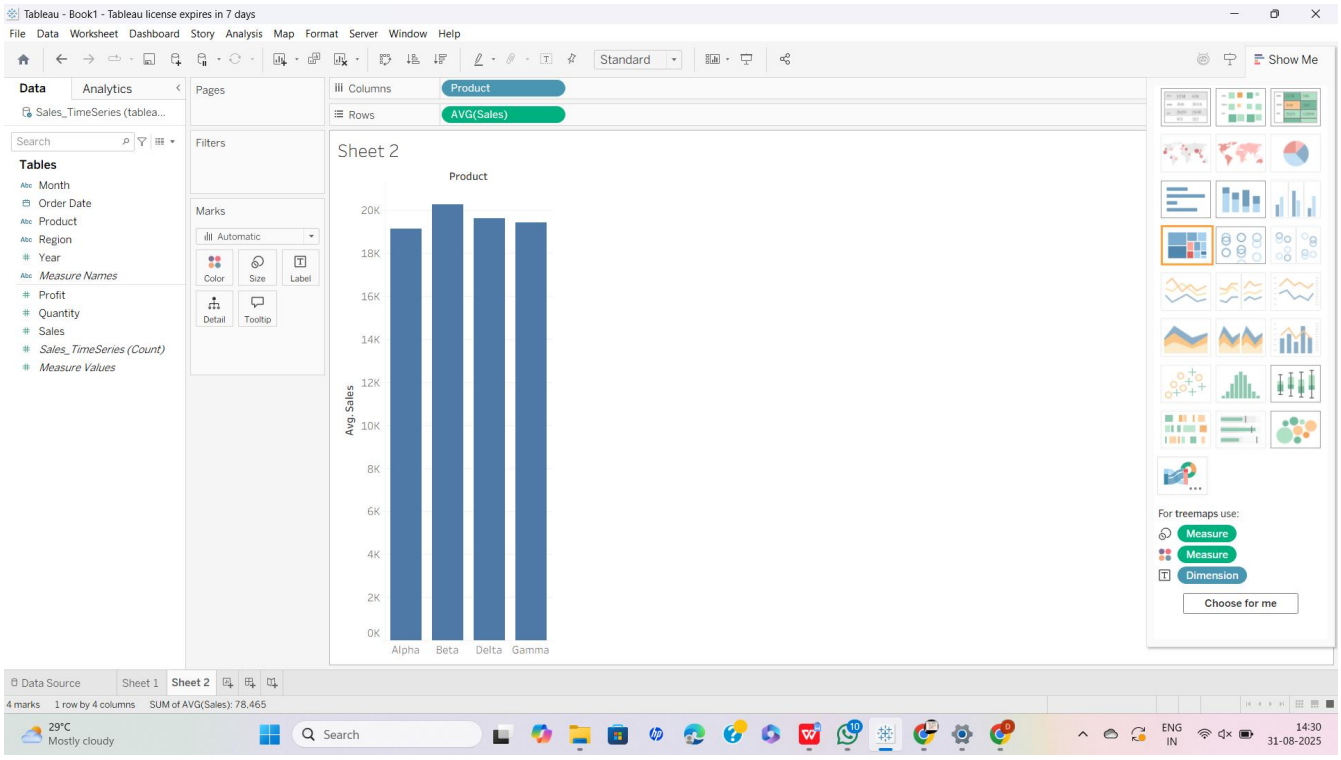
✓ This is the **SUM aggregate**.

AVG Calculation (Average Sales per Product)

1. New sheet.
2. Drag Product to Columns.
3. Drag Sales to Rows.
4. By default it shows SUM. Right-click the Sales pill → select Measure (Sum) → change to Average.
5. Now the formula is AVG([Sales]) → average sales per product.







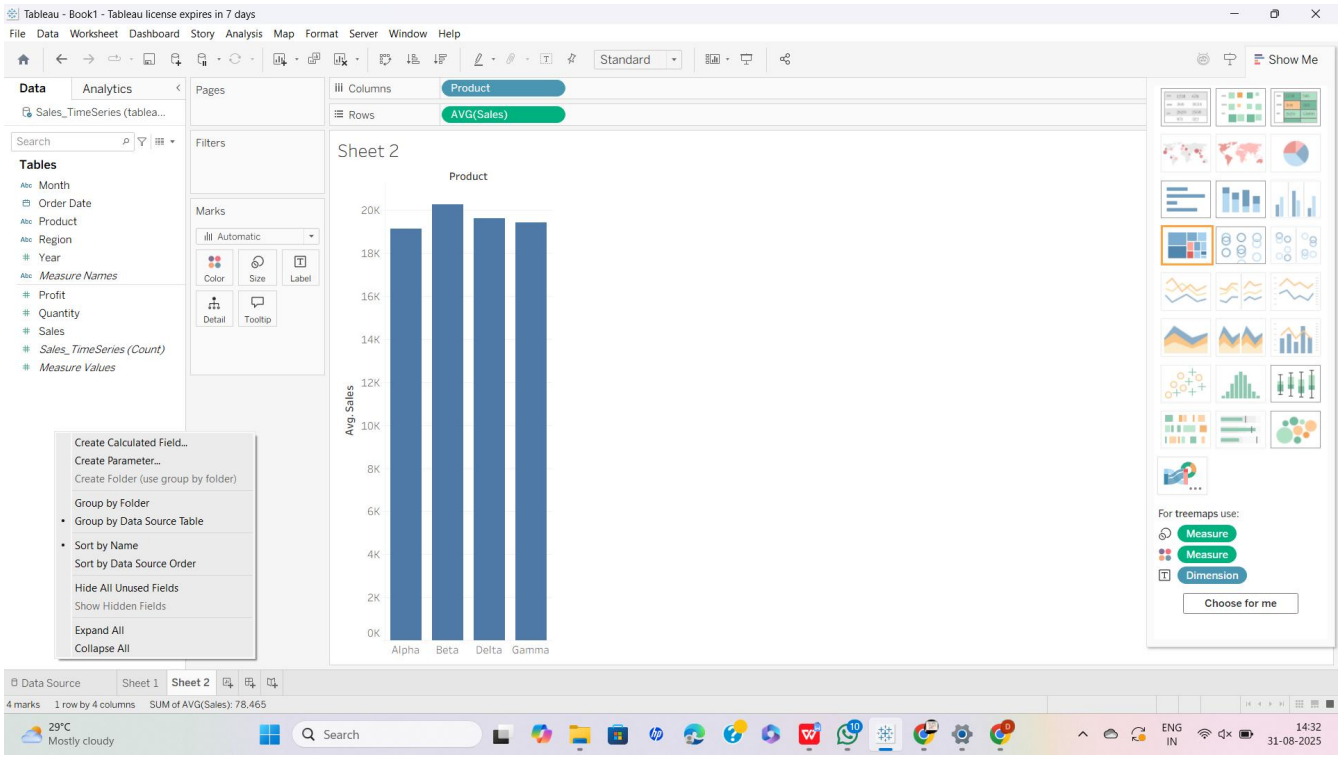
✓ This is the **AVG aggregate**.

Aggregate Calculations (Profit Ratio example)

1. We want to calculate **Profit Margin = Profit ÷ Sales**.
2. In the Data pane (left), right-click empty space → **Create Calculated Field…**
3. Name: Profit Margin.
4. Formula: SUM([Profit]) / SUM([Sales])

(We use SUM() because both Profit and Sales are aggregated at the visualization level).

5. Click **OK**.
6. Drag Profit Margin to **Rows** or **Label**.
7. Right-click → **Format** → set as **Percentage**.



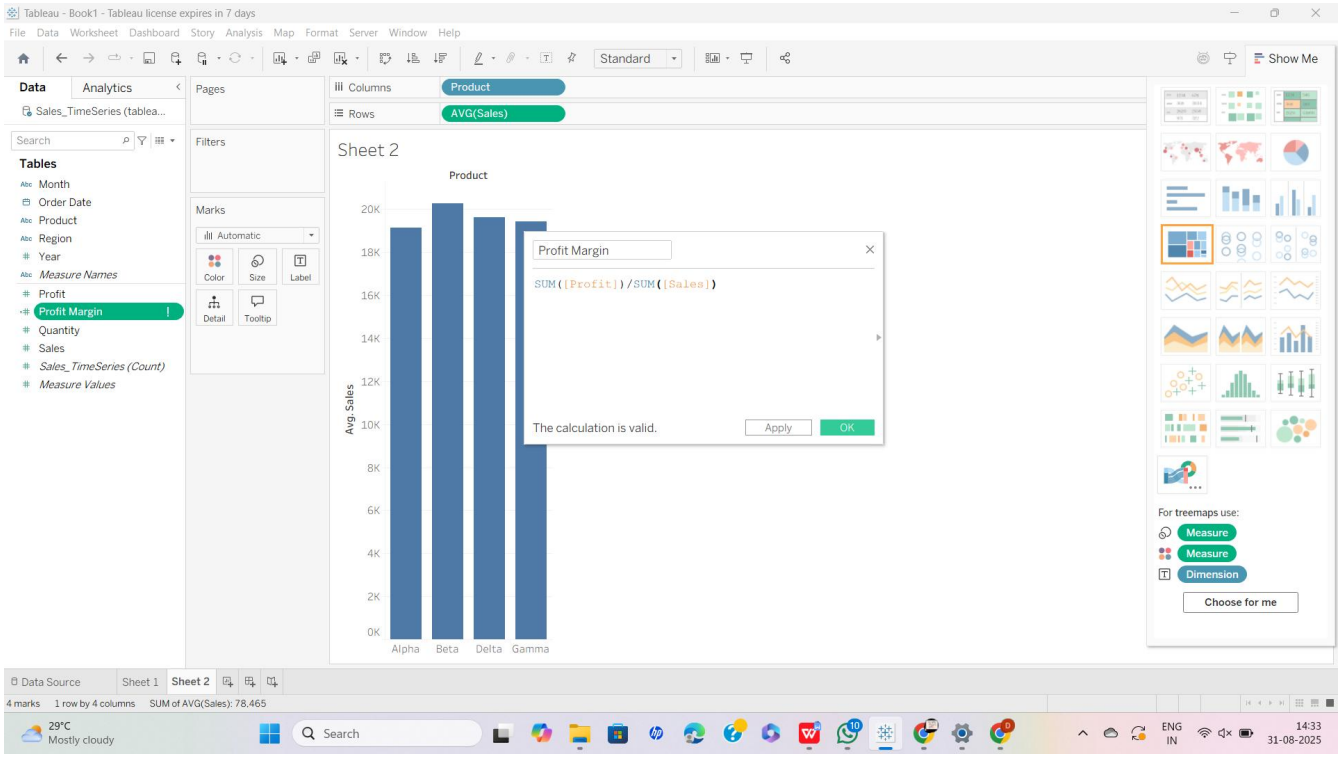


Tableau - Book1 - Tableau license expires in 7 days
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Standard
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Month
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Product
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Profit
Profit Margin
Quantity
Sales
Sales_TimeSeries (Count)
Measure Values
Pages
Filters
Marks
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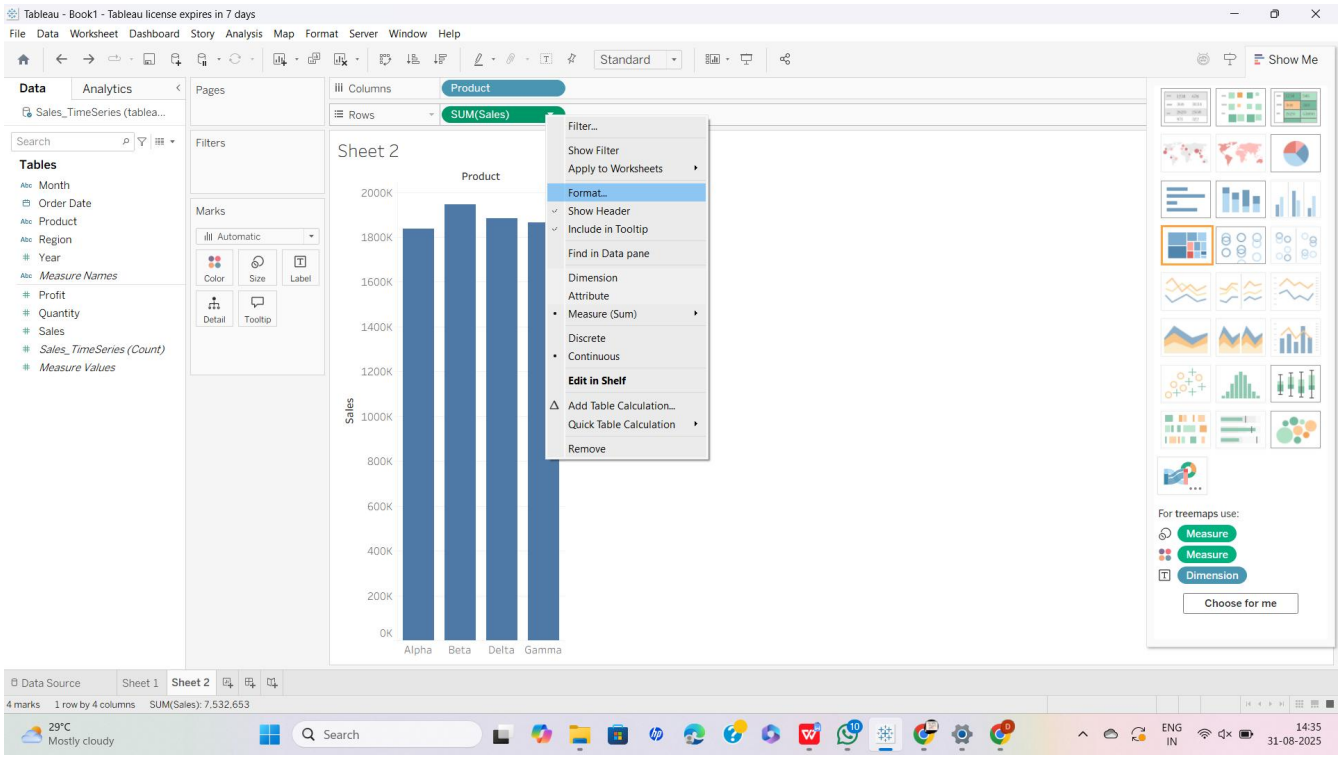
Color
Size
Label
Detail
Tooltip
Columns
Product
Rows
AVG(Sales)
Sheet 2
Product
Avg Sales
20K
18K
16K
14K
12K
10K
8K
6K
4K
2K
0K
Alpha
Beta
Delta
Gamma
Profit Margin
SUM([Profit])/SUM([Sales])
The calculation is valid.
Apply
OK
For treemaps use:
Measure
Measure
Dimension
Choose for me
Data Source
Sheet 1
Sheet 2
4 marks
1 row by 4 columns
SUM of AVG(Sales): 78,465
29°C
Mostly cloudy
Search
ENG
IN
14:33
31-08-2025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Standard
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Order Date
Product
Region
Year
Measure Names
Profit
Quantity
Sales
Sales_TimeSeries (Count)
Measure Values
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Columns
Product
Rows
SUM(Sales)
Sheet 2
Product
Sales
2000K
1800K
1600K
1400K
1200K
1000K
800K
600K
400K
200K
0K
Alpha
Beta
Delta
Gamma
Filter...
Show Filter
Apply to Worksheets
Format...
Show Header
Include in Tooltip
Find in Data pane
Dimension
Attribute
Measure (Sum)
Discrete
Continuous
Edit in Shelf
Add Table Calculation...
Quick Table Calculation
Remove
For treemaps use:
Measure
Measure
Dimension
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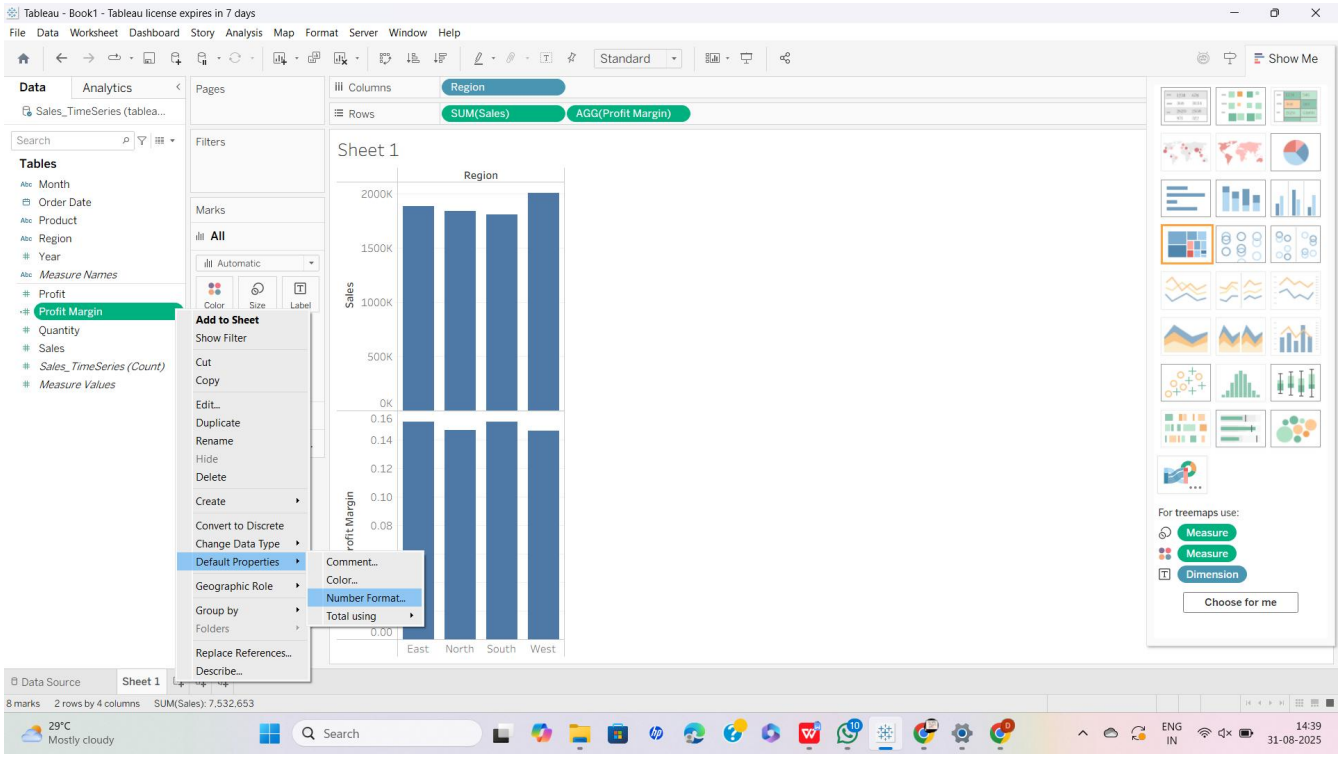
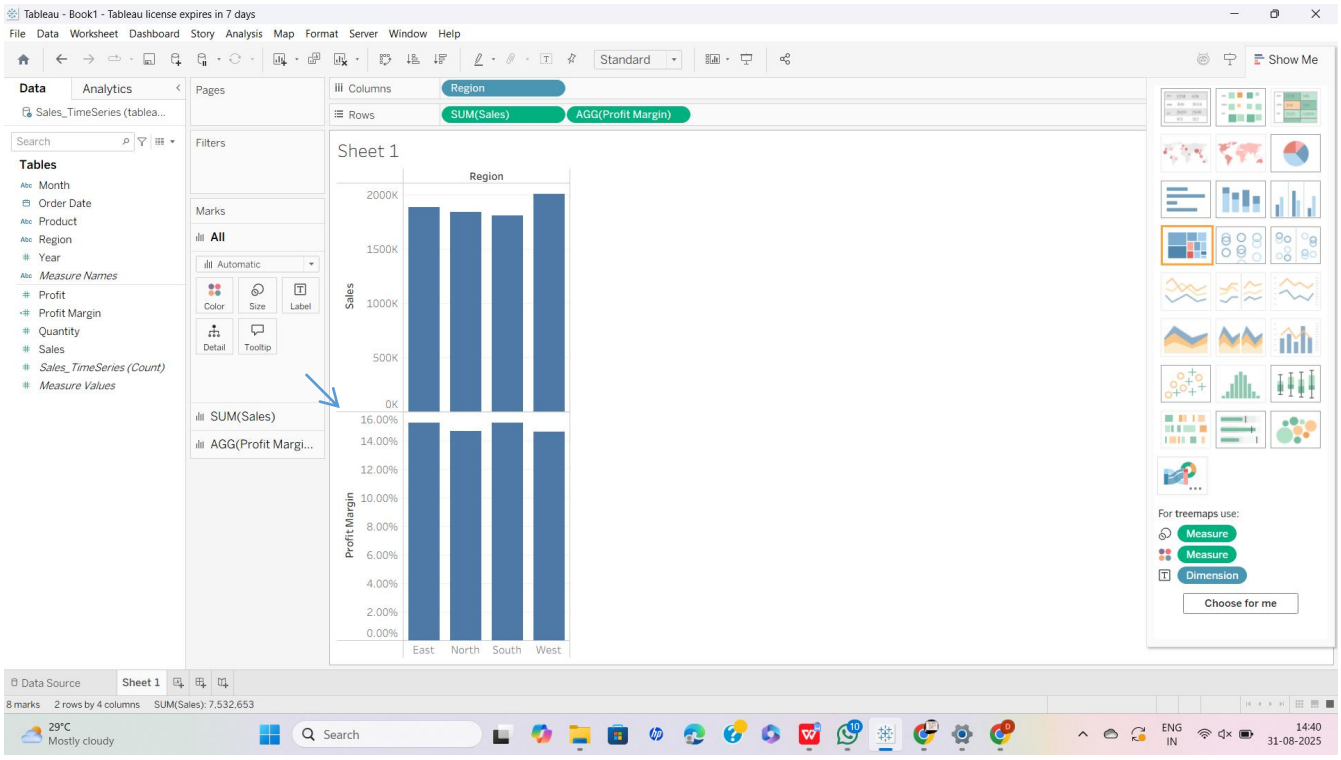
Data Source
Sheet 1
Sheet 2
4 marks
1 row by 4 columns
SUM(Sales): 7,532,653
29°C
Mostly cloudy
Search
ENG
IN
14:35
31-08-2025

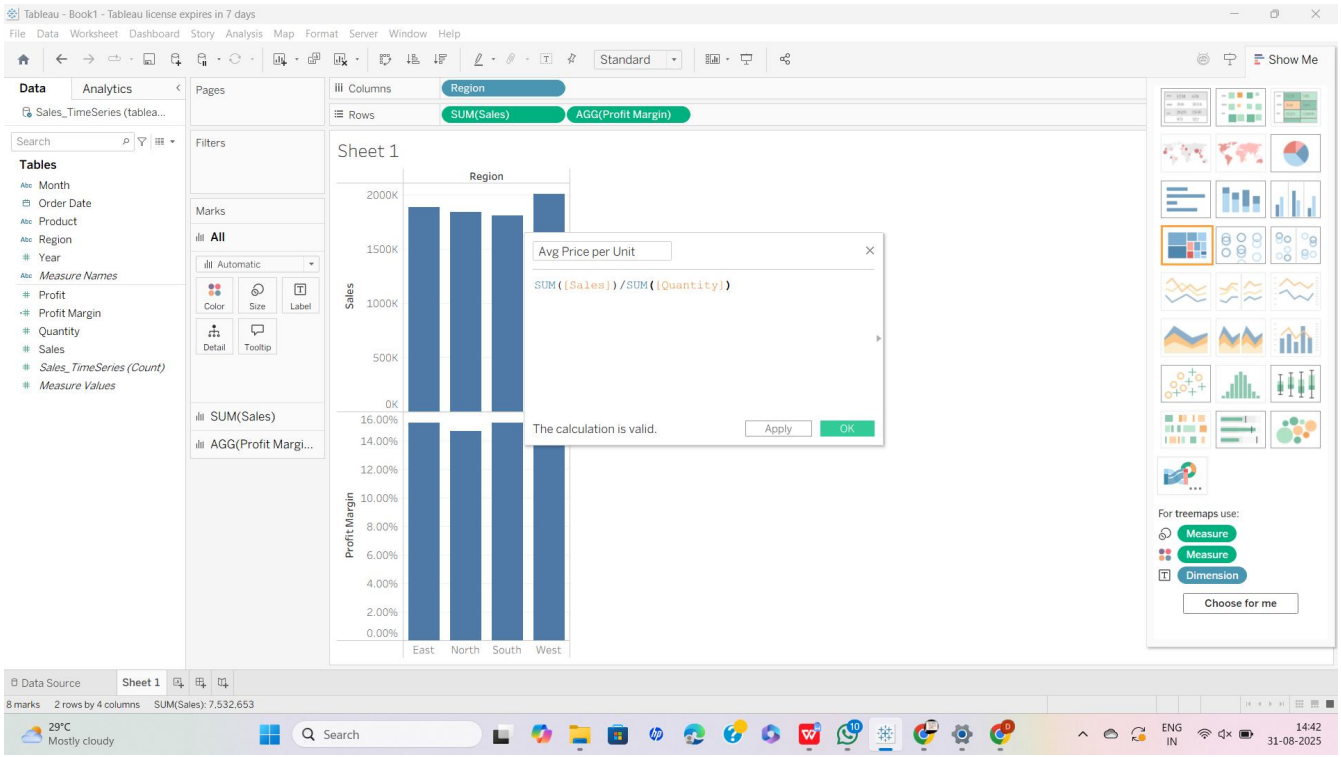


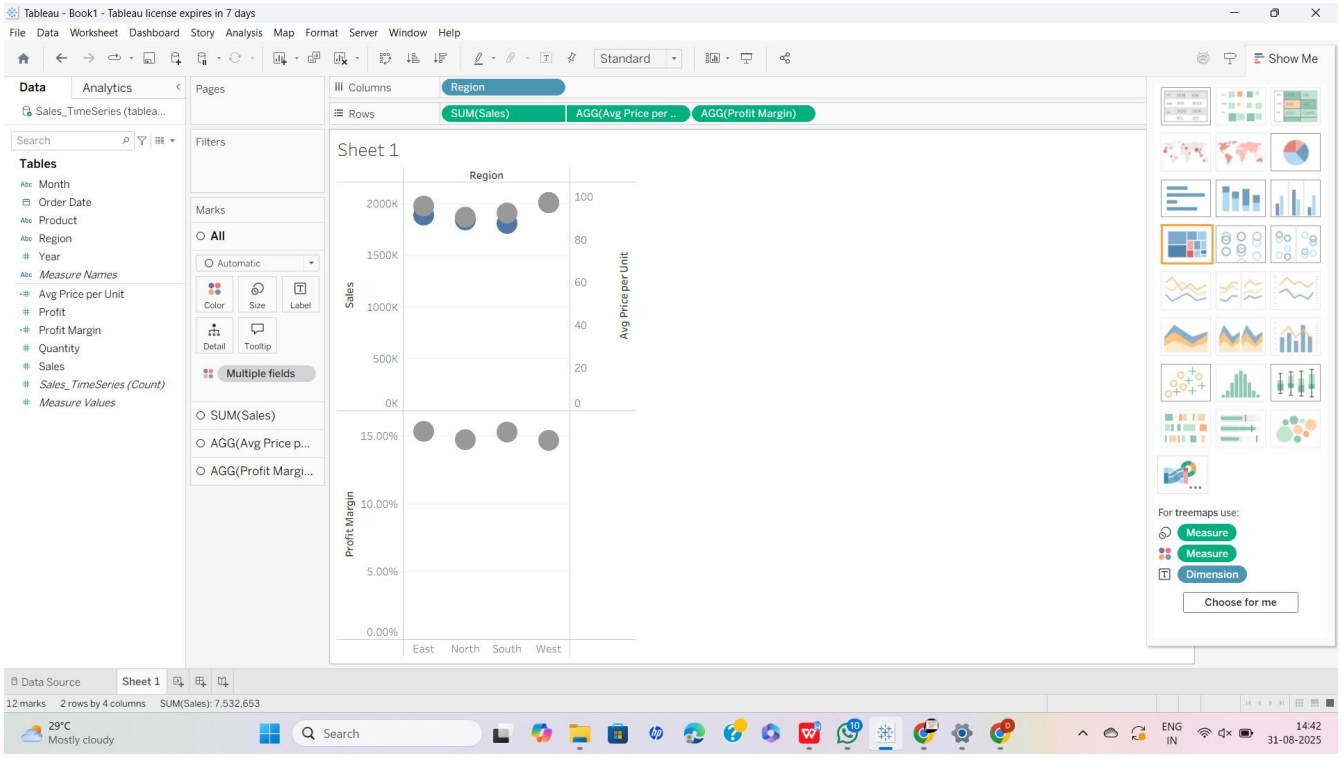


✓ Now you see Profit Margin % per category/region.

Custom Calculations (Example: Average Selling Price)

1. Let's create a new field **Average Price per Unit = Sales ÷ Quantity**.
2. Right-click Data pane → **Create Calculated Field…**
3. Name: Avg Price per Unit.
4. Formula: SUM([Sales]) / SUM([Quantity])
5. Click **OK**.
6. Drag Avg Price per Unit to **Tooltip** in your bar/line chart.
7. Hover → You see calculated price shown in tooltips.





✓ This is a **custom calculation field**.

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