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> > > Build a Scatter Plot

Build a Scatter Plot

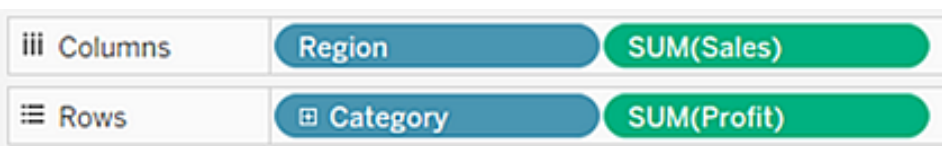
Use scatter plots to visualize relationships between numerical variables.

In Tableau, you create a scatter plot by placing at least one measure on the **Columns** shelf and at least one measure on the **Rows** shelf. If these shelves contain both dimensions and measures, Tableau places the measures as the innermost fields, which means that measures are always to the right of any dimensions that you have also placed on these shelves. The word "innermost" in this case refers to the table structure.

Creates Simple Scatter Plot



Creates Matrix of Scatter Plots



A scatter plot can use several mark types. By default, Tableau uses the shape mark type. Depending on your data, you might want to use another mark type, such as a circle or a square. For more information, see [Mark Types](#).

To use scatter plots and trend lines to compare sales to profit, follow these steps:

- 1. Open the **Sample - Superstore** data source.
- 2. Drag the **Profit** measure to **Columns**.

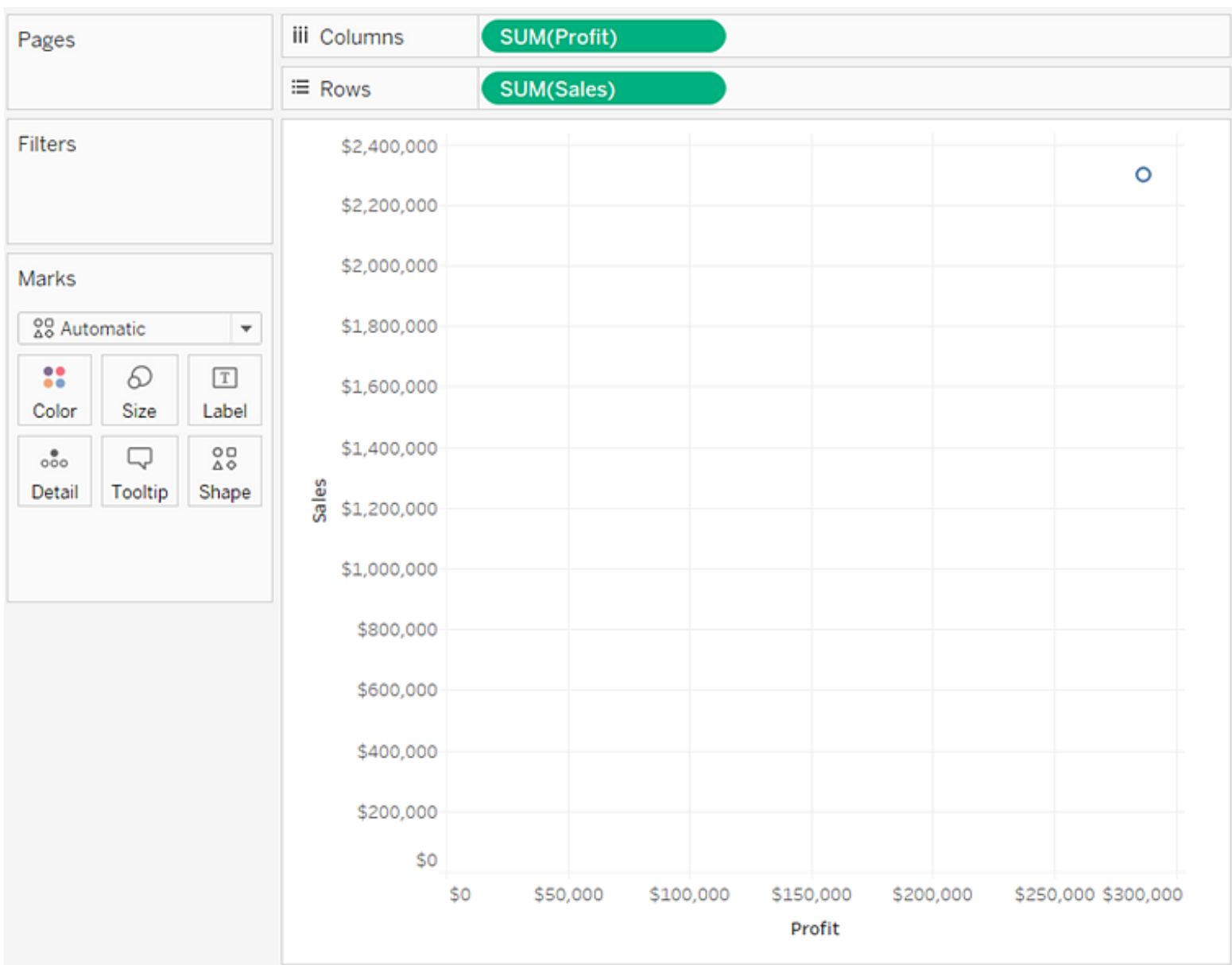
Tableau aggregates the measure as a sum and creates a horizontal axis.

- 3. Drag the **Sales** measure to **Rows**.

Tableau aggregates the measure as a sum and creates a vertical axis.

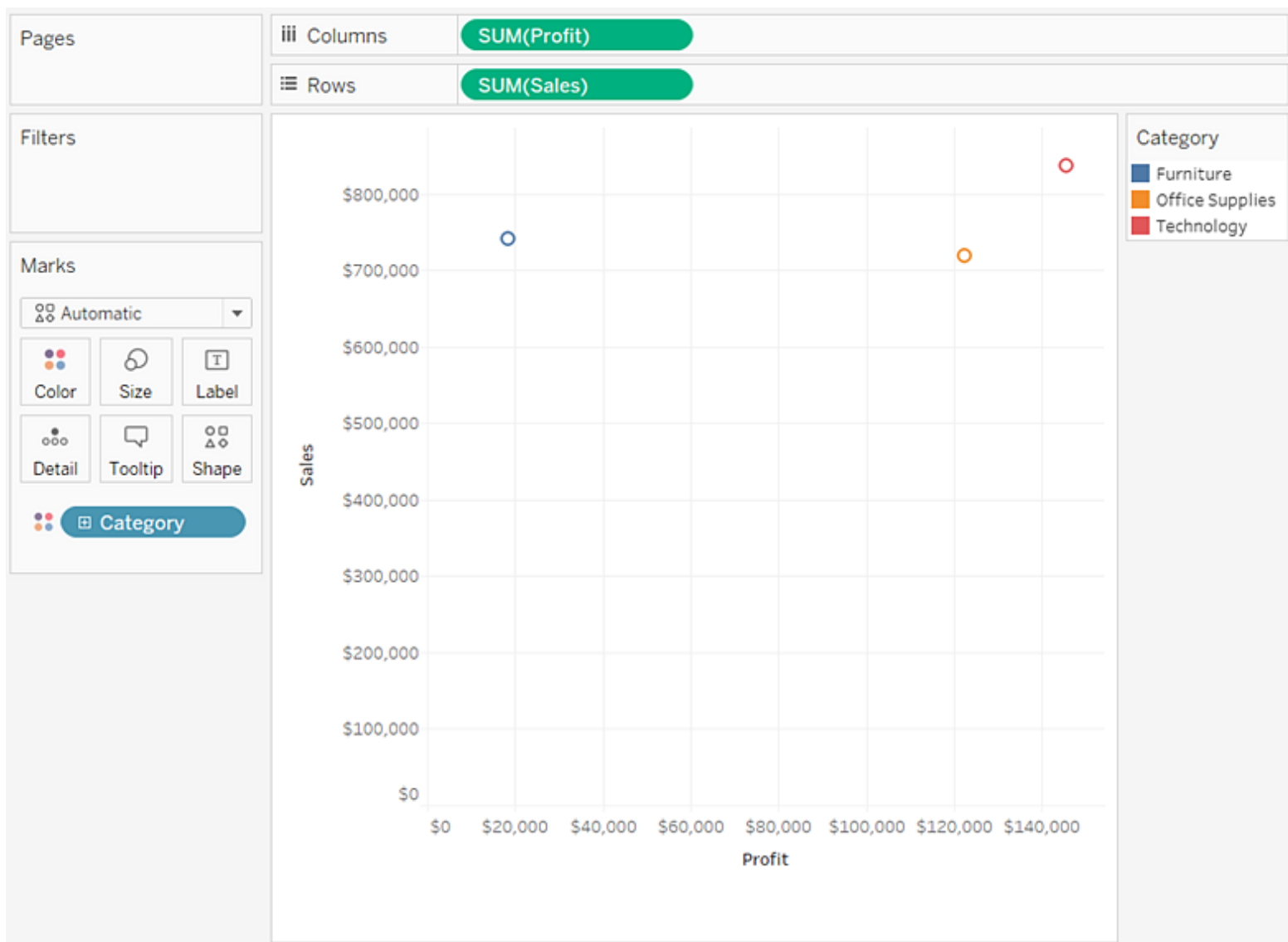
Measures contain continuous numerical data. When you plot one number against another, you are comparing two numbers; the resulting chart is analogous to a Cartesian chart, with x and y coordinates.

Now you have a one-mark scatter plot:



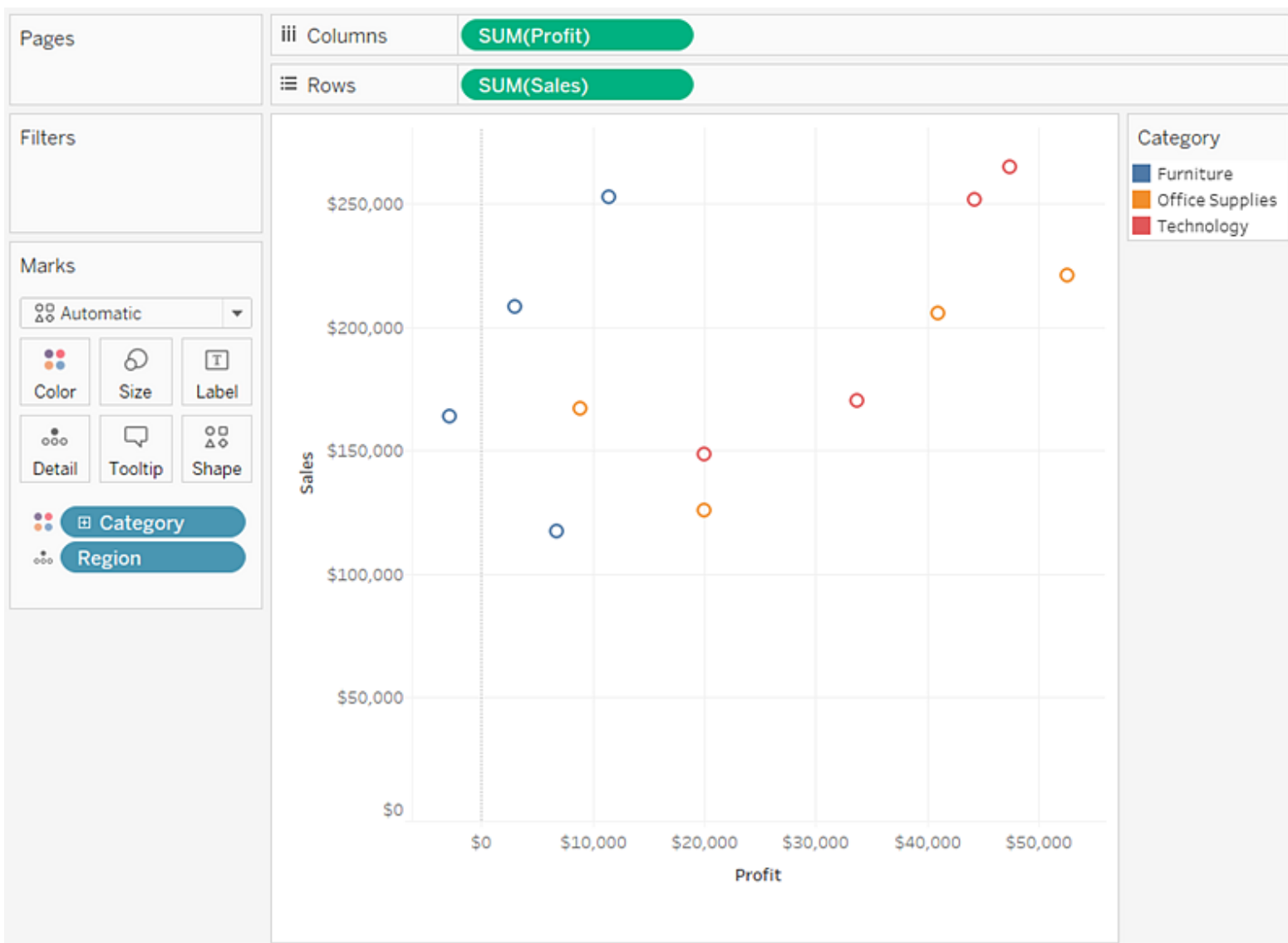
4. Drag the **Category** dimension to **Color** on the Marks card.

This separates the data into three marks—one for each dimension member—and encodes the marks using color.

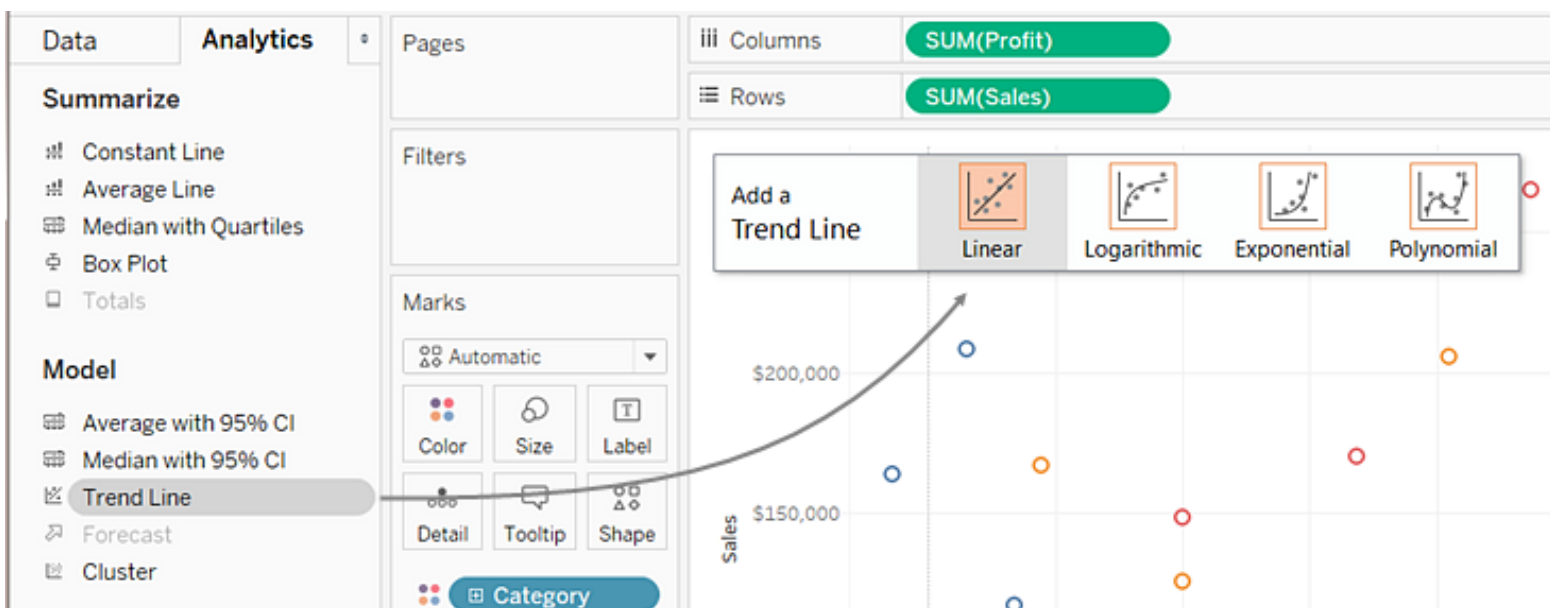


5. Drag the **Region** dimension to **Detail** on the **Marks** card.

Now there are many more marks in the view. The number of marks is equal to the number of distinct regions in the data source multiplied by the number of departments. (If you're curious, use the **Undo** button on the toolbar to see what would have happened if you'd dropped the **Region** dimension on **Shape** instead of **Detail**.)



- To add trend lines, from the **Analytics** pane, drag the **Trend Line** model to the view, and then drop it on the model type.

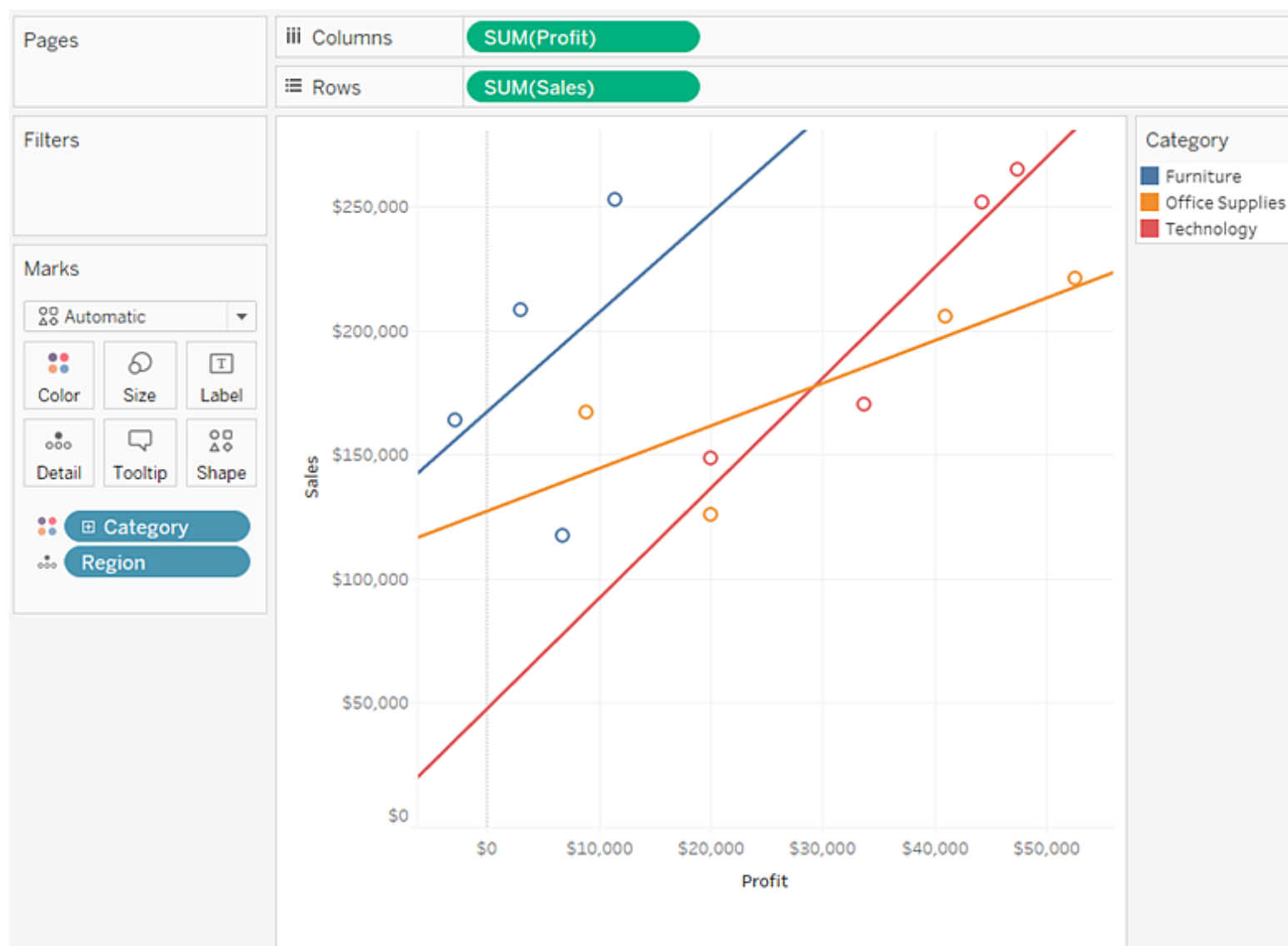


A trend line can provide a statistical definition of the relationship between two numerical values. To add trend lines to a view, both axes must contain a field that can be interpreted as a number—by definition, that is always the case with a scatter plot.

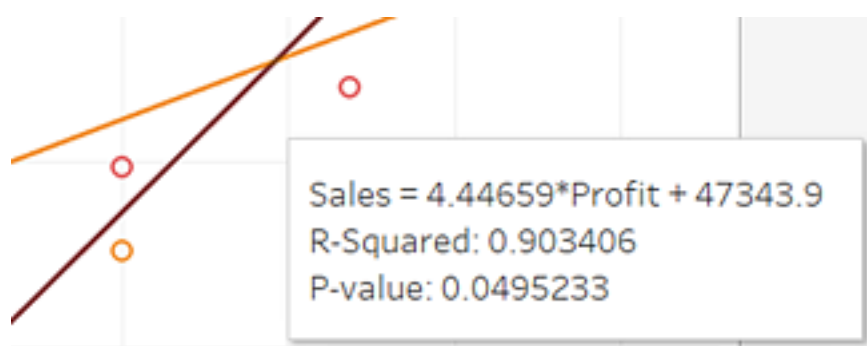
Tableau adds three linear trend lines—one for each color that you are using to distinguish the three categories. Tableau also shows the confidence bands for each trend line.

- To declutter the view, remove the confidence bands: right-click (control-click on Mac) in the

view and choose **Trend Lines > Edit Trend Lines**. In the Trend Line Options dialog box, in the **Options** section, clear the **Show Confidence Bands** check box, and then click **OK**.



8. Hover the cursor over the trend lines to see statistical information about the model that was used to create the line:



For more information, see [Assessing Trend Line Significance](#). You can also customize the trend line to use a different model type or to include confidence bands. For more information, see [Adding Trend Lines](#).

See Also

[Example – Scatter Plots and Aggregation](#)