



Desktop 8 Qualified Associate

Exam Preparation Guide



Preparing for the Exam

This document provides information on the structure of the exam, along with the knowledge and skills being measured. It will also guide you to resources that will help you to prepare you for success. This document is not intended to be learning on the product.

Target Audience

This exam is intended for those who have a comprehensive understanding of the functionality in Tableau Desktop 8 and at least five months applying this learning in the product.

Learning Resources

While there are no prerequisites for this exam, to be successful with passing you are strongly encouraged to complete the Desktop Fundamentals and Desktop Advanced courses.

Information on these courses can be found at:

<http://www.tableausoftware.com/classroom>

Product Help:

<http://onlinehelp.tableausoftware.com>

Online Tutorials:

<http://www.tableausoftware.com/learn/tutorials/on-demand>

Knowledge-based (kb):

<https://www.tableausoftware.com/support/product>

Exam Format

Time Limit:

Two Hours (for online exams, please plan extra time for setup)

Passing Score:

75%

Number of Questions:

30 knowledge-based (1 point each) and 20 hands-on (3 points each)

Question Formats:

Multiple- Choice, Multiple –Response, True/False

Hands-On Details:

Many questions will require hands-on work in Desktop to determine the correct answer.

Access to the Desktop 8.2 application will be provided during the exam.

Contact

For questions or more information email certification@tableausoftware.com or visit www.tableausoftware.com/certification.

Skills Measured

Terms and Definitions (10%)

- + [Application terminology and definitions](#)
- + [View terminology and definitions](#)
- + [Data terminology and definitions](#)
- + [Visual cues for fields](#)
 - [Fields in the data window](#)
 - [Fields on shelves](#)

Working with Data (10%)

Understand how to:

- + [Filter data](#)*
- + [Sort data](#)* ([tutorial](#))
- + [Build groups](#)* ([tutorial](#))
- + [Build hierarchies](#)* ([tutorial](#))
- + [Build sets](#)* ([tutorial](#))

Understand how to use:

- + [Metadata](#)* – [saved data source connections](#)
- + [Alternate data source types](#)
- + [Separate but unconnected data](#) in the same workbook ([tutorial](#))
- + [Data extracts](#)* ([tutorial](#)) ([kb](#))
- + [Custom SQL](#) ([kb](#))
- + Special field types:
 - [Date hierarchies](#)* ([tutorial](#))
 - [Different date parts on different shelves](#) ([kb](#))
 - [Discrete and continuous date parts](#)
 - [Continuous dates](#)
 - [Custom dates](#)
 - [Define a fiscal year](#)
 - [Relative date filtering](#)
 - [Date hierarchies and OLAP considerations](#)
- + Tableau-generated fields:
 - [Measure values and names](#) ([tutorial](#))
 - [When to use measure values and names](#)
 - [Number of records](#) ([kb](#))
 - [Generated latitude and longitude](#) ([kb](#))

Understand what happens when the data source changes, including:

- + [Connecting to Tableau Data Server](#)*
- + [Database joins](#) – connecting multiple data sources from the same database ([tutorial](#))
- + [Data blending](#) – combining data from different databases and data sources ([tutorial](#))

Building Visualizations (40%)

Understand how to build:

- + [Combined axis charts](#)
- + [Combo charts](#) – bar and line or mixed mark ([kb](#))
- + [Geographic mappings and geocoding](#) ([tutorial](#))
- + [Scatter plots](#) – scattergraph ([kb](#))
- + [Cross tabs](#) – text tables or pivot tables

- + [Heat maps](#)
- + [Bins, histograms, calculated bins](#)
- + [Motion charts](#) – working with Page Shelf and History
- + [Pie charts](#) ([kb1](#)) ([kb2](#))
- + [Bullet graphs](#)
- + [Bar in bar](#)
- + [Box plots](#) – box and whisker diagram or plot ([tutorial](#))
- + [Gantt bar chart](#) ([kb](#))
- + [Paretos](#) ([kb](#))
- + [Sparklines](#) ([kb](#))

Understand how to:

- + [Modify locations within Tableau](#)
- + [Import and manage custom geocoding](#) ([tutorial](#)) ([kb](#))
- + [Use a background image map](#)* ([tutorial](#)) ([kb](#))
- + [Use spatial analysis](#)
- + [Effectively use titles, captions and tooltips](#)* ([tutorial](#))
- + [Format results with edit axes](#) *
- + [Format results with mark labels and annotations](#)*

Dashboards (5%)

Understand how to:

- + [Build dashboards](#)* ([tutorial](#))
- + Utilize [visual best practices](#)* for dashboard design
- + Use options for [running actions](#)* ([kb](#))
- + Create a [drill-down report](#) ([kb](#))

Understand how to use:

- + [Highlight actions](#) ([kb](#))
- + [Filter actions](#)* ([kb](#))
- + [URL actions](#)

Analytics (35%)

Understand how to:

- + [Manipulate strings](#) and [date calculations](#)*
- + Build [arithmetic calculations](#)*
- + Work with [aggregation options](#)* ([tutorial](#))
- + [Build logic statements](#)* ([tutorial](#))
- + Build [grand totals](#), [sub-totals](#) and [changing aggregation](#)*
- + [Create quick table calculations](#)*

Understand how to use:

- + [Reference lines](#)*
- + [Reference bands](#)*
- + [Reference distributions](#)*
- + [Trend lines](#)*
- + [Trend model](#)*
- + [Statistical summary card](#)

*Item has numerous resources.

Example Questions

The questions below are examples intended to give you a sense of how questions will look on the exam. It is not a learning resource for the Desktop product, nor does it provide the experience needed to successfully pass the exam. Please review the resources/links above for knowledge preparation. **A solution section follows. You are encouraged to work thru your own solutions first before looking at what we provided.**

Knowledge-Based

- 1 To connect to multiple tables in a single data source at one time, a _____ must be specified.
 - a. Blend
 - b. Calculation
 - c. Join
 - d. Hierarchy
- 2 Tableau can create worksheet-specific filters.
 - a. TRUE
 - b. FALSE

Hands-On

The questions below use the dataset *Sample - Superstore Subset (Excel)*, which is included with the Desktop 8.2 installation.

- 3 What is the percent of total Sales for Home Office in July of 2012?
 - a. 23.50%
 - b. 23.97%
 - c. 20.14%
 - d. 32.56%
- 4 Find the top 10 Items by Sales within each region. _____ is ranked #2 in both the Central & West regions in 2011.
 - a. Riverside Palais Royal Lawyers Bookcase
 - b. Bush Mission Pointe Library
 - c. Sharp AL-1530CS Digital Copier
 - d. Global Troy Executive Leather Low Back Tilter
- 5 In the Technology department, which unprofitable state is surrounded by only profitable states?
 - a. Colorado
 - b. Missouri
 - c. Wyoming
 - d. Utah
- 6 If 2013 Sales numbers were expected to increase 150% in the following year, what would be the total estimated sales for the Consumer Segment in 2014?
 - a. \$4,278,540
 - b. \$816,999
 - c. \$2,752,823
 - d. \$802,365

- 7 In which Region do all Departments fall beneath the overall average profit?
- All Regions
 - Central
 - East
 - South
 - West
- 8 Which Category has a Shipping Cost to Sales ratio of above 3%?
- Tables
 - Chairs & Chairmats
 - Paper
 - Binders and Binder Accessories
- 9 Find the customer with the lowest overall profit. What is his/her profit ratio?
- 2.35%
 - 1%
 - 17.54%
 - 771.39%
- 10 Determine which state in the Central Region has the highest distribution of profits using interquartile ranges.
- South Dakota
 - North Dakota
 - Minnesota
 - Iowa
- 11 Look at the sum of profits for each category. Which category is -\$31,069 below the average profit across all categories?
- Appliances
 - Bookcases
 - Envelopes
 - Paper
- 12 The top 10 customers by Sum of Sales represent ____ of the total profits.
- 3.50%
 - 5.03%
 - 17.54%
 - None of the Above
- 13 What was the Moving Average of Sales in June of 2012, including six months prior and six months after?
- \$101,752
 - \$180,036
 - \$188,552
 - \$286,170
- 14 Create a histogram showing the number of Sales using Sales Bins of \$1,000. Which bins have profit ratios (profit as a percentage of sales) of more than 25%? *Select all that apply.*
- \$1,000
 - \$3,000
 - \$7,000
 - \$8,000
 - \$10,000
 - \$11,000
 - \$18,000

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Solutions

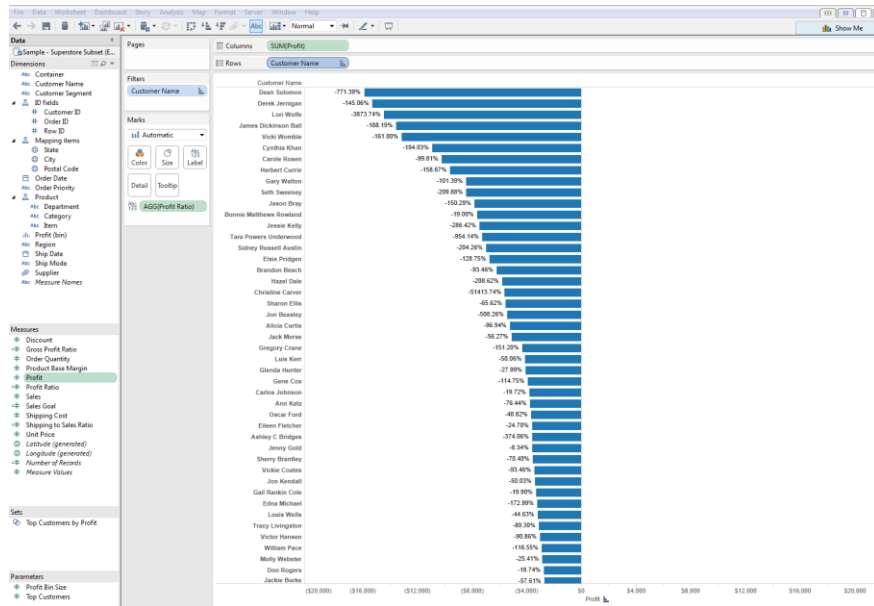
- 1 To connect to multiple tables in a single data source at one time, a _____ must be specified.
Answer: c) Join
- 2 Tableau can create worksheet-specific filters.
Answer: a) True
- 3 What is the percent of total Sales for Home Office in July of 2012?
Answer: b) 23.97%
- 4 Find the top 10 Items by Sales within each region. _____ is ranked #2 in both the Central & West regions in 2011.
Answer: c) Sharp AL-1530CS Digital Copier
- 5 In the Technology department, which unprofitable state is surrounded by only profitable states?
Answer: a) Colorado
- 6 If 2013 Sales numbers were predicted to increase 150% in the following year, what would be the total estimated sales for the Consumer Segment in 2014?
Answer: b) \$816,999
- 7 In which Region do all Departments fall beneath the overall average profit?
Answer: d) South
- 8 Which Category has a Shipping Cost to Sales ratio of above 3%?
Answer: c) Paper

Would you like more Guidance?

Below we provide guidance on a "suggested" method of finding the answer. You may find that there are other ways to determine the correct answer for each question. The focus for this exam is the destination (i.e. accuracy), rather than the journey.

- 9 Find the customer with the lowest overall profit. What is his/her profit ratio?

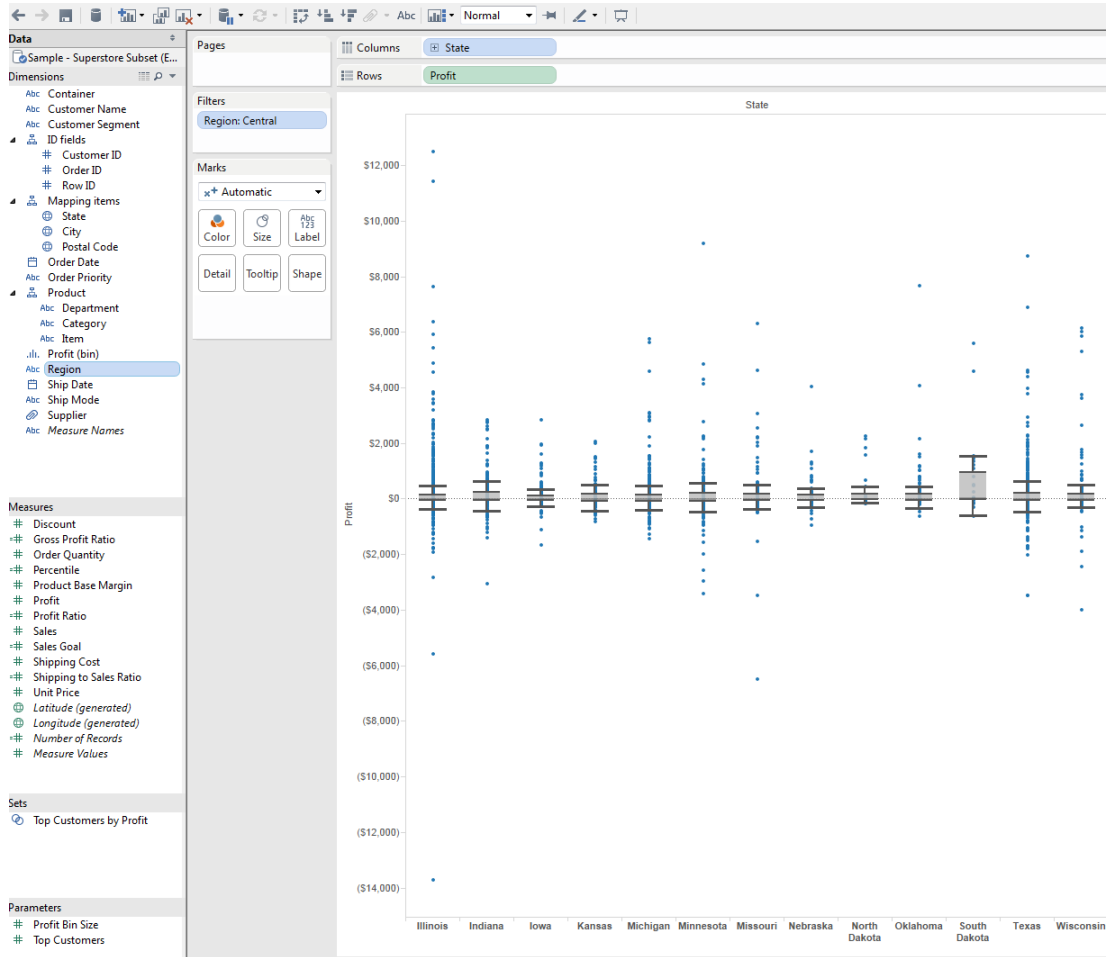
Guidance: The answer to this question can be found by looking at profits by customer and sort ascending by profit. Once you identify your customer contributing the least to your profits, add a profit ratio calculation to the label or tooltip.



Answer: d)-771.39%

10 Determine which state in the Central Region has the highest distribution of profits using quartiles.

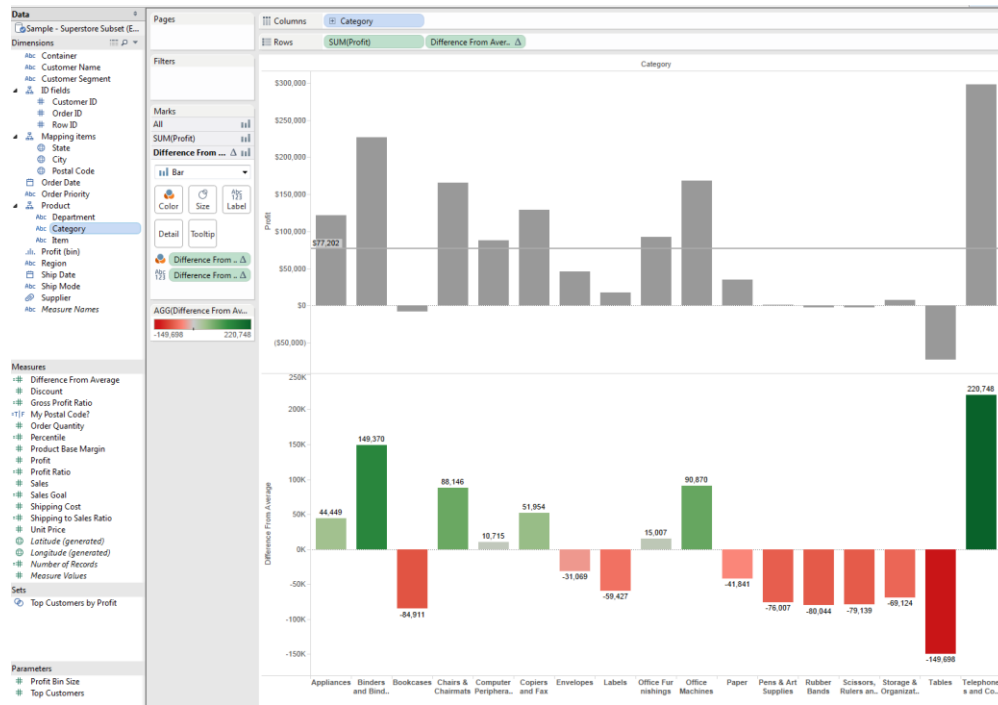
Guidance: The answer to this question can be found by showing Profit by State, disaggregating your measures, and showing distribution. You can use the available box plot option, or choose distribution – quartiles – 4, to show quartiles.



Answer: a) South Dakota

11 Looking at the sum of profits for each category. Which category is -\$31,069 below the average profit across all categories?

Guidance: The answer to this question can be found by creating a table calculation looking at the sum of profit and subtracting from the window average ($SUM([Profit]) - WINDOW_AVG(SUM([Profit]))$). Using the calculation in your view and applying the label will reveal the difference from average for each category.



Answer: c) Envelopes

Would you like Step-by-Step?

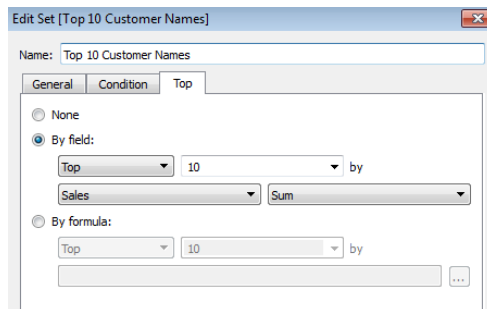
Below are step-by-step solutions for a “suggested” method of finding the answer. You may find that there are other ways to determine the correct answer for each question.

12 The top 10 customers by Sum of Sales represent _____ of the total profits.

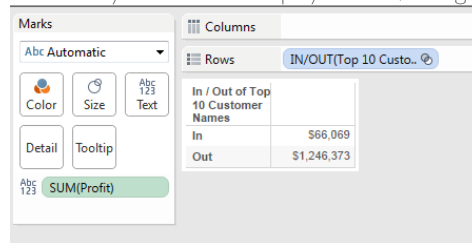
Guidance: The answer to this question can be found by building a set for the top 10 Customers by Sales, then using that set in a view that uses the table calculation “percent of total”

Step-by-Step:

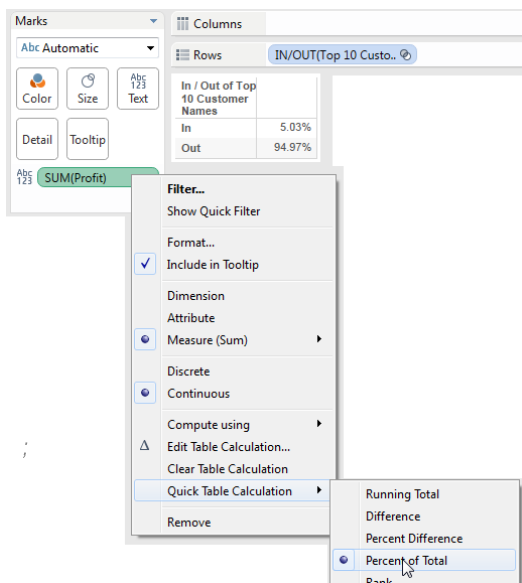
a) Building a Set from Customer Name with the Top 10 by Sales.



b) Including that Set in your view to display In/Out, along with Profit as the measure.



c) Converting Profit to a Table Calculation for Percent of Total.



Final Response:

In / Out of Top 10 Customer Names	
In	5.03%
Out	94.97%

Answer: b) 5.03%

13 What was the Moving Average of Sales in June of 2012, including six months prior and six months after?

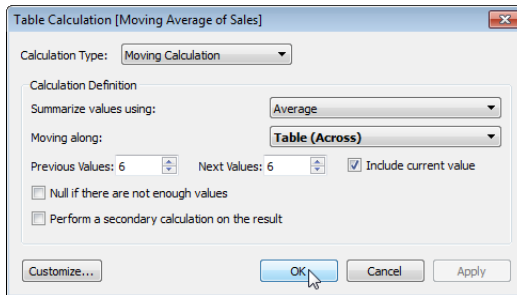
Guidance: The answer to this question can be found by creating a view with Sales by continuous Month, then using a table calculation to present a moving average.

Step-by-Step:

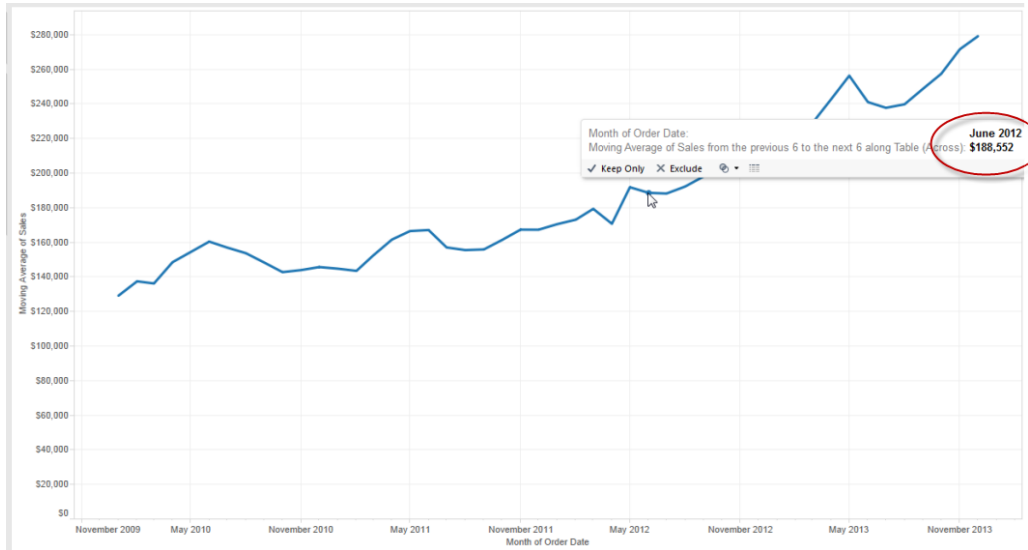
a) Building a view with continuous Month and Sum of Sales:



b) Right-click on Sum(Sales), and choose Add Table Calculation. Select a Moving Average with Previous 6 Values and Next 6 Values, moving Across the table:



c) Once complete, hover over June 2012, and the tooltip will give you our specific answer:



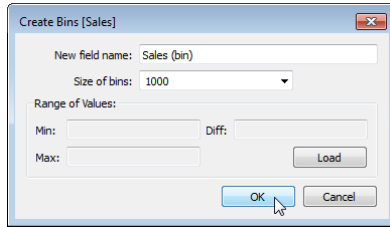
Answer: c) \$188,552

14 Create a histogram showing the number of Sales using Sales Bins of \$1,000. Which bins have profit ratios (profit as a percentage of sales) of more than 25%? Select all that apply.

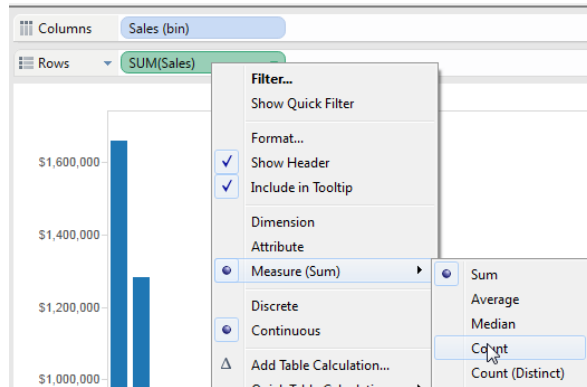
Guidance: Creating this solution involves creating the bin of 1,000 each from Sales, including it in a view along with Sales shown as a Count, creating the Profit Margin calculated field, and filtering the view by Profit Margin greater than 25%.

Step-by-Step:

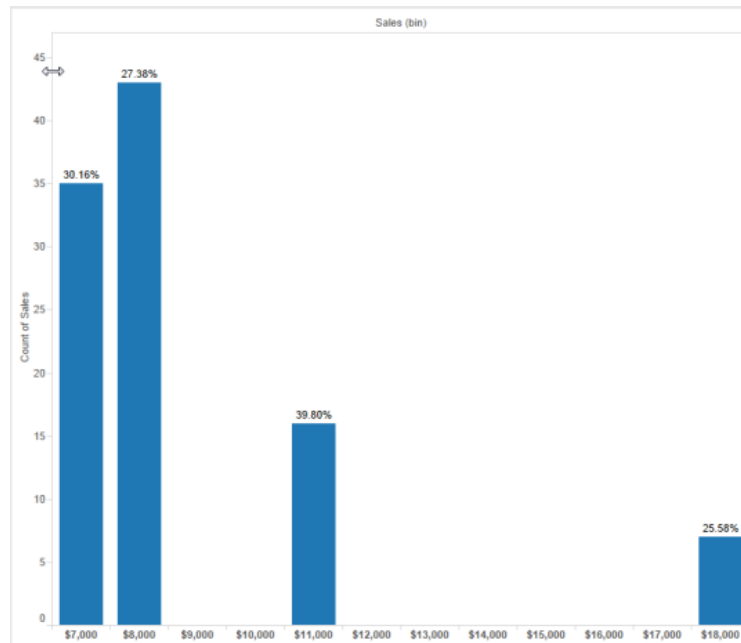
- a) Right-click on Sales and choose "Create Bins" and change the bin size to 1000:



- b) Once the bin is created, build a view with Sales (bin) to Columns, and Sales to Rows, but then change Sales (on the Rows shelf) to the Count function:



- c) Create the Profit Margin calculated field and include it as a label:
- Use the formula $\text{Sum}([\text{Profit}])/\text{Sum}([\text{Sales}])$
 - Format the field as a percentage
 - Drag the Profit Margin field to the Label shelf
- d) Filter the view to only show bins with a Profit Margin of greater than 25%:
- Drag Profit Margin to Filter
 - Choose "At Least" and the value ".25"
 - Filtered view will appear as follows:



Answer: c) 7,000, d) \$8,000, f) \$11,000, and g) \$18,000