**SECTION 1**

1. Tableau is a visual analytics platform founded in 2003 because of a computer science project at \_\_\_\_\_\_\_ that aimed to improve the flow of analysis and make data more accessible to people through visualization.
2. MIT
3. University of California Berkeley
4. **Stanford**
5. University of California Los Angeles
6. Tableau has a flexible front end and an intuitive interface that visually expresses data by translating drag-and-drop actions into data queries. Tableau separates the data layer from the presentation layer and makes updating a spreadsheet data source a trivial append to the bottom of your source spreadsheet.
7. **True**
8. False
9. Upon opening Tableau Public, users are greeted by the Start Page. From this window, users can open recently created workbooks, create a new one by connecting to a data source or explore Tableau content from the community. The page consists of all but the following panes:
10. Connect
11. Open
12. **Combine**
13. Discover
14. A workbook is a collection of files that can contain all but the following:
15. **Analytical models**
16. Sheets
17. Dashboards
18. Stories
19. The Tableau canvas has two layers: the logical layer of the canvas where you can create relationships between logical tables, and the physical layer of the canvas where users can add joins and unions between tables.
20. **True**
21. False
22. The Tableau Workspace is where users can create a chart. A single sheet is called a worksheetwhich contains a single view of data. A view is the visual representation of data or the chart itself which is inside the worksheet. The Tableau workspace consists of all but the following:
23. Menus
24. A toolbar
25. The Data pane
26. Cards
27. **The Tableau workspace consists of all of the above**
28. The Format tab helps users adjust or personalize how the visualization or view looks. From this tab, users can edit all but the following:
29. Font
30. Alignment
31. **Language settings**
32. Shading
33. Lines and other visual properties
34. When you use the extract connection type, Tableau creates a Tableau Data Extract file. When you create an extract from a local file (such as a .csv or an Excel workbook) or an on-premise database, you’re speeding up the workbook through optimization. As a result, Tableau doesn’t need the database to build the visualization. Instead, Tableau’s in-memory data engine queries the extract directly.

Extracts tend to be slower than live connections, especially in more complex visualizations with large data sets, filters and calculations.

1. True
2. **False**

**ANSWER 8:** FALSE - Extracts are much faster than live connections.

1. The data interpreter helps you clean data by detecting titles, footnotes, empty cells, and other extra columns/rows to identify the actual fields and values in a dataset. The Data Interpreter feature will not always be available to all data sets. It will not be shown on the data source page if:
2. The data is already in a proper format that Tableau can interpret.
3. It has too many rows and columns. Files that have more than 2000 columns or more than 3000 rows will not be processed by the Data Interpreter.
4. The data source is not supported. Data Interpreter only accepts Excel files, csv, pdf and google sheets.
5. **All of the above are true**
6. If a field has the exact same name for both data sources during a blend, this field will be automatically set as a linking field.
7. **True**
8. False
9. Calculated fields allow you to create new data from data that already exists in your data source.

When you create a calculated field, you are essentially creating a new field (or column) in your data source, the values or members of which are determined by a calculation that you control.

1. **True**
2. False
3. The different elements that compose a view include all but the following:
4. Headers
5. Cells
6. Title
7. Axes
8. **Legend**

**Answer 12**: E - a legend indicates how the view is encoded with relation to the data. Aside from color, it can also use symbols, size and shape as the legend.

1. Blends, unlike relationships or joins, never truly combine the data. Instead, blends \_\_\_\_\_\_\_\_ each data source independently, the results are aggregated to the appropriate level, then the results are presented visually together in the view.
2. **Query**
3. Merge
4. Concatenate
5. Join
6. None of the above

**SECTION 2**

1. A \_\_\_\_\_\_\_\_\_\_ visualizes quantitative values using shapes in a geographical map over a given longitude and latitude. The size of each shape is indicative of the scale of the measure.
2. Filled Map
3. Bullet graph
4. Combo charts
5. **Symbol Map**
6. Pie chart
7. A **­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_** is a variation of a bar graph developed to replace dashboard gauges and meters. It is useful for comparing the performance of a primary measure to one or more other measures. Compared to the bar charts which were shown earlier in the course, these are focused on presenting how a measure fares compared to its target value or quota.
8. Gantt chart
9. **Bullet graph**
10. Stacked bar chart
11. Line chart
12. Pie chart
13. A \_\_\_\_\_\_\_\_\_\_\_\_ is one of the most popular chart types. It has a simple design; an individual component/segment composed of one slice, the arc length of the slice (and its central angle and area at the same time), is proportional to the quantity or value it represents.
14. Gantt chart
15. Bullet graph
16. Stacked bar chart
17. Line chart
18. **Pie chart**
19. A variation of the table is the Highlight Table,which can be used to compare categorical data using colors.  Its values are easier to distinguish because it has an accompanying color per cell. The saturation of the color in each cell depends on its value.
20. **True**
21. False
22. in Tableau are simply oversized numeric values that contain the most important measures and KPIs in a dashboard. They are placed either on the topmost or left side of the dashboard since they are prioritized and are one of the things that should get the user’s attention.
23. Text Tables
24. Highlight numbers
25. **Callout numbers**
26. Measure names
27. Pie charts
28. A line chart uses multiple mark types in the same visualization. The chart usually has 1 shared X axis for the dimension and 2 separate Y axis on each side for 2 different measures. This chart type is great for visualizing measures that have a large difference in their range of values into 1 view.
29. True
30. **False**

**ANSWER 19**: FALSE - A Dual-axis chart uses multiple mark types in the same visualization.

1. A well-known visualization for Project Management is a \_\_\_\_\_\_\_\_\_\_\_, which is great for illustrating the duration of a task or an operation. Each task in a project is represented by a horizontal bar with a start date and end date. Tasks are represented along the vertical axis, and dates are represented along the horizontal axis.
2. **Gantt chart**
3. Bullet graph
4. Stacked bar chart
5. Line chart
6. Pie chart
7. Tableau sheets can be dragged directly into a dashboard and a container can be used to organize them. Layout containers have all of the following qualities/attributes, except:
8. They let you group related dashboard items together so you can quickly position them.
9. As you change the size and placement of items inside a container, other container items automatically adjust.
10. They can be found in the objects section of the dashboard pane.
11. There are two types of containers: Horizontal layout containers and vertical layout containers, which are stacked according to their names.
12. **Layout containers have all of the above qualities/attributes.**

**SECTION 3**

1. Calculated fields are robust and efficient and can be used for all but the following:
2. Segmenting data
3. Converting data types
4. Aggregation
5. **Cleansing data**
6. They are used for all of the above.
7. Aggregationis the process of forming individual data into a cluster or group based on a specific measurement. So individual rows of data can be compressed into 1 number depending on the aggregation method you wanted to use. Text or String data types have the default aggregation of all the following, except:
8. Minimum
9. Maximum
10. **Calculated fields**
11. Count
12. Count Distinct
13. Tableau has 3 types of calculations: Basic, Level of Detail and, Table calculations. The type you will use will always depend on your analysis and the data structure that you need for your charts. Which one allows you to transform values at the level of detail of the visualization only?
14. Basic expressions
15. Level of Detail (LOD) expressions
16. **Table calculations**
17. None of the above
18. Tableau has 3 types of calculations: Basic, Level of Detail and, Table calculations. The type you will use will always depend on your analysis and the data structure that you need for your charts. Which one allows you to compute values at the data source level and the visualization level? Calculations can be performed at a more granular level (INCLUDE), a less granular level (EXCLUDE), or an entirely independent level (FIXED) with respect to the granularity of the visualization.
19. Basic expressions
20. **Level of Detail (LOD) expressions**
21. Table calculations
22. None of the above
23. When aggregating, COUNT is a unique method compared to maximum and minimum because it has all the following attributes, except:
24. **It returns the number of distinct items in a group.**
25. It converts “text” into “numbers”.
26. It returns the number of items in a group.
27. Null values are not counted.

**Answer 26:** A **–** COUNT DISTINCT returns the number of distinct ideas in a group.

1. Which of the following statements is NOT true?
2. Sign returns the sign of a number and the possible return values are -1 if the number is negative, 0 if the number is zero, or 1 if the number is positive.
3. **ZN returns the exact same numeric value if it is null, otherwise returns zero.**
4. Floor rounds a number to the nearest integer of equal or lesser value. This function will always round down.
5. SUMsimply gets the total or summation of numeric values.
6. All are true

**Answer 27**: B - ZN will return the exact same numeric value if it is not null, otherwise returns zero.

1. Round will round numbers to a specified number of digits. The syntax for round is “ROUND(number or field, decimal)”. The decimals argument specifies how many decimal points of precision to include in the final result.
2. **True**
3. False
4. String functions basically manipulate string data or any field made of text. You can use it to format your fields such as cleaning symbols and whitespace and add new levels of detail to your visualization by enhancing the dimensions used. Tableau offers several string functions to assist you with editing dimensions, formatting letter case, and even finding certain keywords in your data. All but which of the below are not string functions:
5. Upper
6. Lower
7. Contains
8. Split
9. **All are string functions**
10. Split returns a substring from a string, using a delimiter character to divide the string into a sequence of tokens. The string is interpreted as an alternating sequence of delimiters and tokens. Its syntax is “SPLIT([string field], “delimiter symbol”, token number)”. When the token number is positive, tokens are counted starting from the left end of the string; when the token number is negative, tokens are counted starting from the right.
11. **True**
12. False
13. Forecasting is a method of predicting the possible future value based on regular patterns in measures. In Tableau, you can apply forecasting to quantitative time series data with the use of a technique called \_\_\_\_\_\_\_\_\_\_\_\_. With it, recent observations are given relatively more weight than older observations. These models capture the evolving trend or seasonality of your data and extrapolate them into the future.
14. Cluster analysis
15. **Exponential smoothing models**
16. **Bilinear modeling**
17. Discriminant analysis
18. Continuous variable
19. The dropdown for both Trends and Seasonality lets you choose from None, Additive or Multiplicative. An additive model is observed to have a linear trend and the contributions are summed/added. On the other hand, multiplicative model is \_\_\_\_\_\_\_\_\_, and usually shows an exponential trend. In our current line graph, we can’t observe a trend on the line so we will set trend to “None”. As for seasonality, let’s try to use “Multiplicative” and observe the results and quality of the forecast after.
20. **Compounding**
21. Forecasting
22. **Multiplicative**
23. Continuous