Part 1

Question 1

1. Similarity: You do not want components of your visualization to be dissimilar. It is important to retain similarity to make the visualization easier to read and understand.
2. Closure: The message of the graph should be easily known. It is also important for the audience to have access to the source of the data and have a good understanding of what is being presented.
3. Continuation: Visualizations should show a clear continuation of the data. Graphs like line plots and bar charts should be smooth and effective and present a clear message of the data.

Question 2

1. Order: There is no agreed upon standard for how things should be ordered for data visualization, but it is important that there is logic to how we order our data. The audience reads data visualizations very differently from each other and so it is key that the most important parts of our visualizations are easy to read.
2. Hierarchy: It is critical to make conscious and deliberate color choices when we make data visualizations. We want to draw focus to the most important parts of our data. Bright colors are good for the important parts and more muted colors are better for the less important parts. It is important that the audience understands the true focus of the visualization.
3. Relationships: The audience will instinctively create a narrative from the data we present. It is important that the relationships in the data are clear and distinctly show the meaning of the data.
4. Convention: The audience looks at things through the lens of convention, and we should take this into account when visualizing data. We should have our components in the right order and make it very clear to read. It is in the audience's nature to judge information based on their perception.

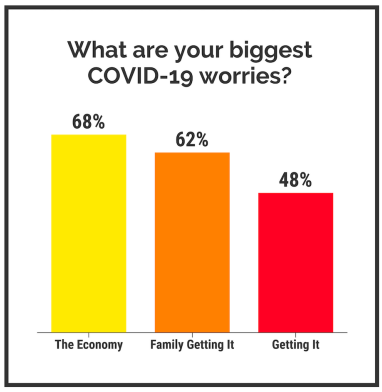
Question 3

1. Bar Charts, because it has an x and y axis and shows a clear comparison between other values in the visualization.
2. A stacked column chart, because you can accurately show the proportions of the data, unlike a pie chart.
3. Line chart, because it shows a line that plots the trends of data over time.
4. Bar chart, because you can easily compare different values to one another.
5. Scatterplot, because it can show points of data and how two variables correlate to one another.

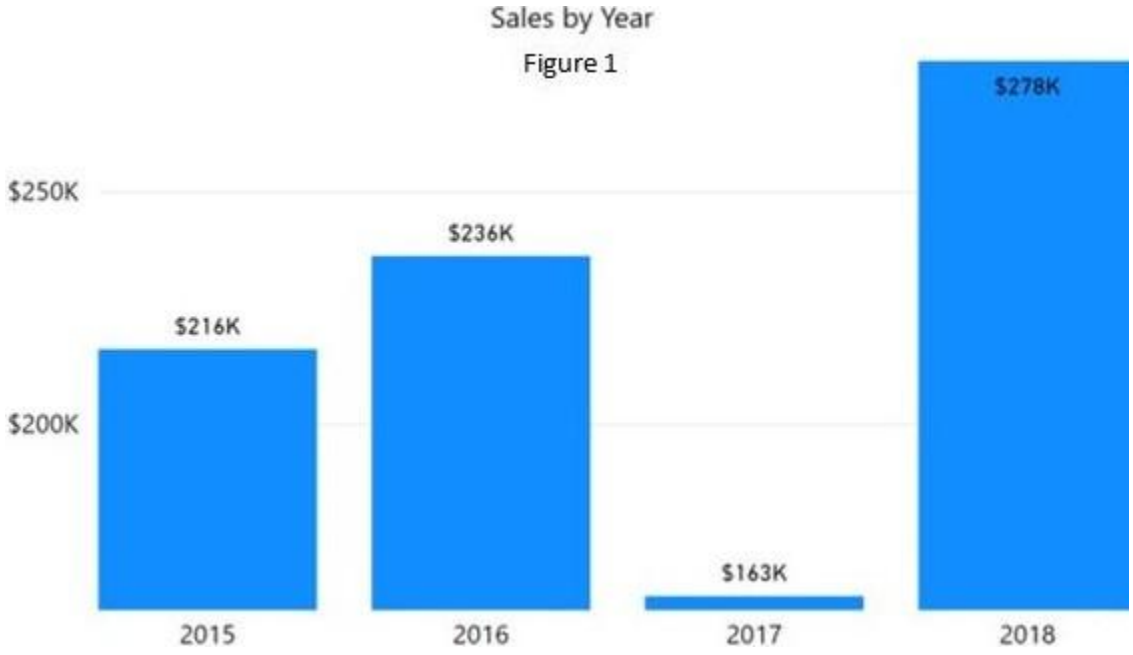
6. Map charts, because it can show the geography and also plot data based on the location.
7. Line chart, because you can add a target line and see how the data did versus the target line over time.
8. Scatter plot, because the individual dots on the chart will show outliers very clearly and show how they are different from the rest.

Question 4

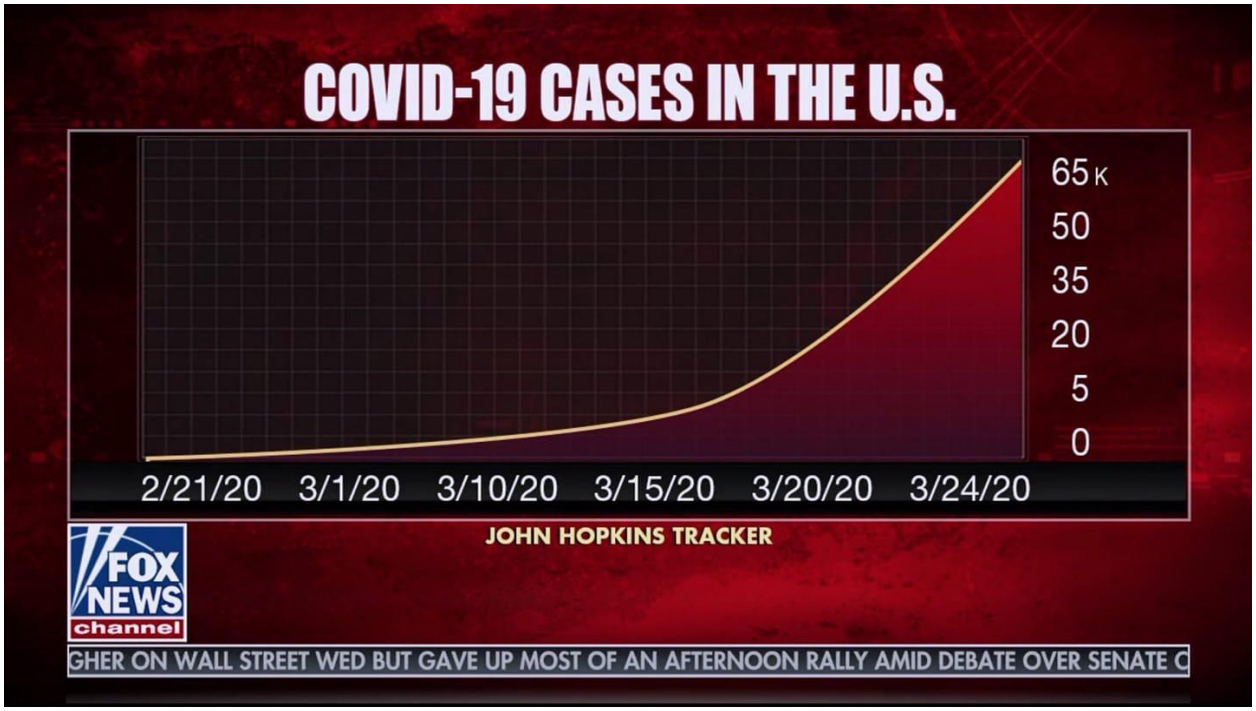
1. Because it is very easy to skew data so that something seems one way when it really isn't. Sometimes it is harder to truly show what the data means than to inaccurately show what it means.
2. The graph below is inaccurate because it totals up to way over 100% and we do not know anything about who was questioned for this survey.



3. This graph is misleading because the y axis doesn't start at 0, so it makes it look like 2017 was way worse for sales when in reality it was fairly close to the other years.



4. The graph below shows covid cases in the US but the numbers are not proportional to each other as the numbers go from 0, 5, 20, 35, 50 all the way to 65k which makes the rise in cases seem a lot less dramatic.



Question 5

1. When there are too many elements on a graph and make it hard for the audience to find the meaning of the data.
2. Axis labels, key, legend, grid lines, data labels.
3. Callouts, indicators, and removing unnecessary elements.
4. Use brighter colors to highlight important sections and use muted colors for the rest. Create a hierarchy to make it easier for the audience

Slideshow (Part 2)

Main Point:

- How do different factors affect manager's salaries? (education, gender, industry, industry experience)

Order:

- Intro
- Visualization for education and salary
- Visualization for gender and salary
- Visualization for industry and salary
- Visualization for industry experience and salary

Specific Visualizations:

- Boxplot for education and salary
- Boxplot for gender and salary
- Strip plot for industry and salary
- Scatter plot for industry experience and salary

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