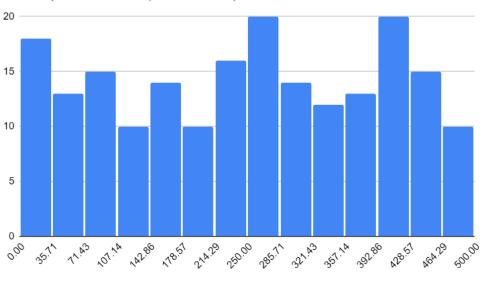
## Week 1

1. A data analyst working for an e-commerce website creates the following data visualization to show the amount of time users spend on the site:

#### Time Spent on Site (in seconds)



What type of visualization is it?

O Line graph

Histogram

O Correlation chart

O Scatter plot

**⊘** Correct

It is a histogram. Histograms demonstrate how often data values fall into certain ranges.

- 2. Causation occurs when an action directly leads to an outcome.
  - True
  - O False

✓ Correct

Causation occurs when an action directly leads to an outcome. Causation occurs when an action directly leads to an outcome, such as a cause-and-effect relationship.

3.	Fill in the blank: A data analyst creates a presentation for stakeholders. They include visualizations because they want them to be interactive and automatically change over time.
	O static
	O aesthetic
	O geometric
	dynamic
	Correct They include dynamic visualizations. Dynamic visualizations are interactive and can automatically change over time.
4.	Sophisticated use of contrast helps separate the most important data from the rest using the visual context that our brains naturally respond to.
	True
	O False
	Correct Sophisticated use of contrast helps separate the most important data from the rest using the visual context that our brains naturally respond to.
5.	Design thinking is a process used to solve complex problems in a visually appealing way.
	O True
	False
	Design thinking is a process used to solve complex problems in a user-centric way.
6.	You are in the process of creating data visualizations. You have considered the goal and the audience's needs. Next, you will generate ideas for data visualizations and brainstorming solutions. What phase of the design process will you be in?
	O Define
	○ Test
	● Ideate
	O Prototype
	Correct
	This describes the ideate phase. There are five phases of the design process: empathize, define, ideate, prototype, and test. The ideate phase is when you start to generate your data visualization ideas.

7.	Fill in the blank: A data analyst can make their visualizations more accessible by adding, which are text explanations placed directly on the visualizations.
	labels
	Subheadings
	O callouts
	O legends
	Correct A data analyst can make their visualizations more accessible by adding labels, which are text explanations placed directly on the visualizations. Labeling data directly instead of relying on legends can make data visualizations more accessible.
8.	Distinguishing elements of your data visualizations makes the content easier to see. This can help make them more accessible for audience members with visual impairments. What is a method data analysts use to distinguish elements?
	O Use contrasting colors and shapes
	Separate the foreground and background
	C Ensure all elements are highlighted equally
	O Add a legend
	<ul> <li>Correct         Data analysts distinguish elements of data visualizations by separating the foreground and background and using contrasting colors and shapes.     </li> </ul>
V	Veek 2
	Tableau is used to create interactive and dynamic visualizations. A visualization is interactive when the audience
	can control what data they see. What does it mean for a visualization to be dynamic?
	The visualization can include audio
	The visualization can be downloaded
	O
	The visualization can change over time
	The visualization can change over time

2.	A data analyst uses the Color tool in Tableau to apply a color scheme to a data visualization. Why do they make sure the color scheme has contrast?
	O To make the visualization uniform
	To make the visualization accessible for people with color vision deficiencies
	O To make the visualization more stylish for users to enjoy
	O To make the visualization more elaborate
	Correct The data analyst makes sure the color scheme has contrast in order to make the visualization accessible for people with color vision deficiencies.
3.	You are working with the World Happiness data in Tableau. What tool do you use to select the area on the map
	representing Central America?
	O Rectangular
	○ Radial
	Lasso
	O Pan
	Correct To select the area on the map representing Central America, use the Lasso tool.
4.	You are working with the World Happiness data in Tableau. What tool do you use to get a better view of Greece?
	Pan
	○ Radial
	O Lasso
	○ Rectangular
	✓ Correct To get a better view of Greece, use the Pan tool.
	You are working with the World Happiness data in Tableau. To display the population of each country on the map, which Marks shelf tool do you use?
	O Tooltip
	● Label
	○ Size
	O Detail
	<ul> <li>Correct</li> <li>To display the population of each country on the map, you use the Label property.</li> </ul>

6.	You are working with the World Happiness data in Tableau. Which tool will enable you to show certain data while hiding the rest?
	O Attribute
	Filter
	O Dimension
	O Format
	<ul> <li>Correct</li> <li>To show certain data while hiding the rest, use the Filter tool.</li> </ul>
7.	You are using Tableau Public to create a data visualization. In order to keep your visualization hidden from other users, you click the Show/Hide icon.
	● True
	○ False
	Incorrect     Review the video on Tableau basics for a refresher.
	Fill in the blank: In Tableau, a palette displays two value ranges. Color shows the range where a data point is from, and color intensity shows its magnitude.
	● diverging
	O contrasting
	O inverting
	O overlaying
	Correct In Tableau, a diverging palette displays two value ranges. Color shows the range where a data point is from, and color intensity shows its magnitude.
V	Veek 3
1.	Fill in the blank: A data-storytelling narrative connects the data to the project
	objectives
	O tasks
	O insights
	O stakeholders
	<ul> <li>✓ Correct         A data-storytelling narrative connects the data to the project objectives.     </li> </ul>

2.	A data analyst prepares to communicate to an audience about an analysis project. They consider what the audience members hope to do with the data insights. This describes establishing the setting.
	○ True
	False
	<ul> <li>Correct         This describes audience engagement. Audience engagement in data storytelling is about considering what the audience members hope to do with the data insights.     </li> </ul>
3.	Fill in the blank: An important part of dashboard design is ensuring that charts, graphs, and other visual elements are cohesive. This means that they are and make good use of available space.
	balanced
	O detailed
	Olabeled
	O colorful
	Correct Dashboard charts, graphs, and other visual elements should be cohesive, which means that they are balanced and make good use of available space.
4.	A data analyst is creating a dashboard using Tableau. In order to layer objects over other items, which layout should they choose?
	O Layered
	○ Tiled
	O Itemized
	<ul><li>Floating</li></ul>
	<ul> <li>Correct         In order to layer objects over other items in a Tableau dashboard, they should choose a floating layout.     </li> <li>Floating items can be layered over other objects.</li> </ul>

5. Which of the following are appropriate uses for filters in Tableau? Select all that apply.
Providing data to different users based on their particular needs
Correct Appropriate uses for filters in Tableau include highlighting individual data points, limiting the number of rows or columns in view, and providing data to different users based on their particular needs.
✓ Highlighting individual data points
Correct Appropriate uses for filters in Tableau include highlighting individual data points, limiting the number of rows or columns in view, and providing data to different users based on their particular needs.
Hiding outliers that do not support the hypothesis
Limiting the number of rows or columns in view
Correct Appropriate uses for filters in Tableau include highlighting individual data points, limiting the number of rows or columns in view, and providing data to different users based on their particular needs.
6. You are creating a dashboard in Tableau to share with stakeholders. Why might you decide to pre-filter the dashboard? Select all that apply.
☐ To eliminate data points that do not support your conclusions
✓ To save stakeholders the effort of filtering the dashboard themselves
Correct Pre-filtering is useful because it saves time and effort while directing stakeholders to the most important data.
✓ To save stakeholders time in finding important data
Correct Pre-filtering is useful because it saves time and effort while directing stakeholders to the most important data.
✓ To direct stakeholders to important data
Correct Pre-filtering is useful because it saves time and effort while directing stakeholders to the most important data.

7.	Fill in the blank: An effective slideshow guides your audience through your main communication points, but it does not repeat every word you say. A best practice is to keep text to fewer than five lines and words per slide.
	O 50
	O 5
	O 100
	25
	Correct  A good practice is to keep text to fewer than five lines and 25 words per slide. This ensures your audience is focused on what you're saying, rather than reading your slides.
8.	You want to include a visual in your slideshow that will update automatically when its original source file updates. Which of the following actions will enable you to do so?
	O Take a screenshot of the visual and paste it into the presentation
	O Copy and paste the visual into the presentation
	Embed the visual into the presentation
	Link the original visual within the presentation
	Correct To include a visual that will update automatically when its original source file updates, link the original visual within the presentation.
V	Veek 4
1.	A data analyst gives a presentation about predicting upcoming investment opportunities. How does establishing a hypothesis help the audience understand their predictions?
	O It visualizes the data clearly and concisely
	O It summarizes the findings succinctly
	O It describes the data thoroughly
	It provides context about the presentation's purpose
	Correct Establishing a hypothesis provides the audience with context about the analyst's presentation. In this scenario, it establishes what the analyst wants to prove or disprove about which investment opportunities are most promising.

2. Wh	at is the final step and "so what?" moment when presenting a data visualization with the McCandless Method?
0	Describe why the graphic matters
0	State the insight of the graphic
•	Call out data to support that insight
0	Answer obvious questions before they're asked
(	Review the video that discusses the McCandless Method for a refresher.
	n analyst introduces a graph to their audience to explain an analysis they performed. Which strategy would allow ne audience to absorb the data visualizations? Select all that apply.
~	Starting with broad ideas
	Correct When introducing a data visualization, an analyst can use the five-second rule to allow their audience to absorb the data visualizations presented. They can also start with broad ideas to simplify the explanation about the visualization's purpose.
~	Using the five-second rule
	Correct When introducing a data visualization, an analyst can use the five-second rule to allow their audience to absorb the data visualizations presented. They can also start with broad ideas to simplify the explanation about the visualization's purpose.
	Practicing breathing exercises
	Improving body language
	u are preparing to present in front of a large audience. Which of the following is a best practice for speaking to audience?
0	Take as few pauses as possible
0	Speak as quickly as possible
0	Take long pauses between sentences
•	Speak at a relaxed pace in short sentences
(	Correct  Speaking at a relaxed pace in short sentences is a best practice for a presentation. A large audience will have an easier time following your points if you use public speaking best practices.

5.	You are running a colleague test with your coworkers. One coworker points out that she doesn't understand one of your graphs. What can you do to prepare for presenting to your stakeholders? Select all that apply.
	✓ Redesign the graph
	Correct  If you receive a concern from a colleague about one of your data visualizations, you can redesign it or elaborate on the data it displays. By running a Colleague Test, you can catch and fix issues with your presentation before getting in front of your audience.
	✓ Elaborate on the data from the graph
	Correct  If you receive a concern from a colleague about one of your data visualizations, you can redesign it or elaborate on the data it displays. By running a Colleague Test, you can catch and fix issues with your presentation before getting in front of your audience.
	<ul> <li>         ☐ Move the graph to a later slide     </li> <li>         ☐ Remove the graph     </li> </ul>
6.	Your stakeholders are concerned about the source of your data. They are unfamiliar with the organization that ran the analyses you referenced in your presentation. Which kind of objection are they making?  Organization Presentation Skills  Analysis  Data  Findings
	Correct When a stakeholder is concerned about the source of your data, they are making an objection about your data. This is when someone objects to the source or relevance of the data you use.
7.	A stakeholder objects to the steps of your analysis. What are some appropriate ways to respond to this objection? Select all that apply.
	Communicate the assumptions you made in your analysis
	Correct When responding to a concerned or objecting stakeholder, you can communicate the assumptions you made to clarify if they are accurate. You can also explain why you think the discrepancies exist and promise to investigate the matter further.
	Defend the results of your analysis
	Explain why you think any discrepancies exist
	✓ Take steps to investigate your analysis question further
	Correct When responding to a concerned or objecting stakeholder, you can communicate the assumptions you made to clarify if they are accurate. You can also explain why you think the discrepancies exist and promise to investigate the matter further.
	You didn't select all the correct answers

8.	You notice that your audience is not as engaged as you'd like during your Q&A. Which of the following are ways to get them more involved?
	Repeat your key findings
	Wait longer for the audience to ask questions
	○ Keep your pitch level
	Ask them for insights
	Correct One way to engage your audience is to ask them if they know anything about the topic you're presenting about. You can enrich the discussion if they do and would like to share their insights.
_	ourse Challenge
1.	Scenario 1, questions 1-9
	You have been working as a junior data analyst at Bowling Green Business Intelligence for nearly a year. Your supervisor, Kate, tells you that she believes you are ready for more responsibility. She asks you to lead an upcoming client presentation. You will be responsible for creating the data story, identifying the right tools to use, building the slideshow, and delivering the presentation to stakeholders.
	Your client is Gaea, an automotive manufacturer that makes eco-friendly electric cars. For the past year, you have been working with the data team in Gaea's Bowling Green, Kentucky, headquarters. For the presentation, you will engage the data team, as well as its regional sales representatives and distributors. Your presentation will inform their business strategy for the next three-to-five years.
	You begin by getting together with your team to discuss the data story you want to tell. You know the first step in data storytelling is to engage your audience.
	A big part of audience engagement is knowing how to eliminate less important details. What practice do you use to scan quickly through the data in order to identify the most important insights?
	Spotlighting
	O Balancing
	O Filtering
	○ Ranking

You use spotlighting to scan through data to quickly identify the most important insights. Spotlighting

enables data analysts to identify broad, universal ideas and messages.

#### 2. Scenario 1, continued

After you identify the most important insights, it's time to create your primary message. Your team's analysis has revealed three key insights:

- 1. Electric vehicle sales demand is expected to grow by more than 400% by 2025.
- The number of publicly available vehicle charging stations is a significant factor in consumer buying decisions. Currently, there are many locations with so few charging stations that electric car owners would run out of power when traveling between stations.
- 3. Vehicle battery range is also a significant factor for consumers. In 2020, the average battery range was 210 miles. However, the vast majority of survey respondents report they will not buy an electric car until the battery range is at least 300 miles per charge.

Based on these insights, you create your primary message. Which of the following reflect the expectations of a primary message?

•	Although electric vehicle sales demand is on the rise, low availability of charging stations and short battery range are significant hurdles that Gaea must overcome
C	Electric vehicle demand is skyrocketing
С	Electric vehicle sales demand is expected to grow by more than 400% by 2025. However, the number of publicly available vehicle charging stations is a significant factor in consumer buying decisions. Currently, there are many locations with so few charging stations that electric car owners would run out of power when traveling between stations. Vehicle battery range is also a significant factor for consumers. In 2020, the average battery range was 210 miles. However, the vast majority of people say they will not buy an electric car until the battery range is at least 300 miles per charge
С	The number of publicly available vehicle charging stations is a significant factor in consumer buying decisions. Therefore, Gaea must begin building vehicle charging stations
(	Correct  A primary message should be clear, direct, and succinct. Your primary message states: Although electric vehicle sales demand is on the rise, low availability of charging stations and short battery range are significant hurdles that Gaea must overcome.
3.	Scenario 1, continued
	Next, you decide on your data narrative's characters, setting, plot, big reveal, and aha moment. During the narrative, you want to communicate to your stakeholders about the challenges associated with the current lack of vehicle charging stations and why it's important for Gaea to increase its cars' battery range by 2025.
	In which part of your data narrative would you include information about charging stations and the need to increase battery range?
	O Setting
	Plot
	O Big reveal
	O Aha moment

The plot, or conflict, is used to create tension in the data story. For Gaea's situation, the plot would include two ideas: An explanation of some of the challenges associated with lack of vehicle charging stations and

details about why it's important for Gaea to increase its cars' battery range by 2025.

#### 4. Scenario 1, continued

Now, you consider which tools to use to create data visualizations that will clearly communicate the results of your analysis. You and your team decide to make both spreadsheet charts and Tableau data visualizations. In addition, you build a dashboard to share live, incoming data with your stakeholders.

#### What are the benefits of using dashboards to tell stories about your data? Select all that apply.

- Maintain control of your data narrative to keep Gaea stakeholders apprised of your insights
- Simplify data visualizations about the number of available charging stations using maps of the different geographies

Some benefits of dashboards include organizing information from multiple datasets into one central location and enabling tracking and analysis of data. In addition, dashboards can simplify data visualization using tables, charts, and graphs.

- Organize multiple datasets about electric vehicle battery ranges into a central location
  - **⊘** Correct

There are multiple benefits to using dashboards to tell data stories. They include being able to organize information from multiple datasets into one central location and enabling tracking and analysis of data. In addition, dashboards can simplify data visualization using tables, charts, and graphs.

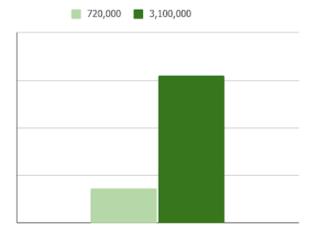
- ✓ Enable tracking and analysis of electric vehicle data

Some benefits of dashboards include organizing information from multiple datasets into one central location and enabling tracking and analysis of data. In addition, dashboards can simplify data visualization using tables, charts, and graphs.

#### 5. Scenario 1, continued

Now that you have finished planning the data story with your team, it's time to create data visualizations. First, you consider electric vehicle sales worldwide in 2015 compared to 2020. You use a spreadsheet to create the following bar graph to compare the two values:

#### Electric Vehicle Sales, 2015 Compared to 2020



You add information on the x-axis to represent a scale of values for the total electric vehicle sales and on the y-axis to represent the time periods (2015 and 2020).

O True

False

In bar graphs with vertical bars, the x-axis is used to represent time periods, categories, or other variables. The y-axis is used to represent a scale of values for the variables.

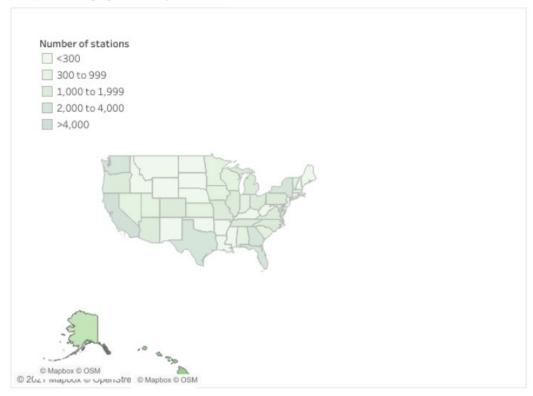
#### 6. Scenario 1, continued

Next, you explore how access to public car-charging stations is influencing electric vehicle purchases. As your analysis has revealed, there are many areas without enough places for people to plug in and charge their cars. This lack of charging stations has a negative impact on demand for electric cars and overall vehicle sales.

You use Tableau to create the following draft of a visualization, which organizes the charging station data geographically:

### Where People Can Charge Their Electric Cars, 2020

Number of charging stations by U.S. state



Source: U.S. Department of Energy, Vehicle Technologies Office

more effective? Select all that apply. Make the intensity of the colors stronger ✓ Correct A map's colors should be used to help the audience understand the data it contains. To make the map more effective, you make the intensity of the colors stronger, select more varied hues, and choose darker values. Intensity will make the colors brighter. Different hues will help the states stand out from one another. And darker values will make the color differences easier to see. Add more space between each state Select more varied hues Choose darker values ✓ Correct To make the map more effective, you make the intensity of the colors stronger, select more varied hues, and choose darker values. Intensity will make the colors brighter. Different hues will help the states stand out from one another. And darker values will make the color differences easier to see. You didn't select all the correct answers 7. Scenario 1, continued Now, you want to highlight what your team's analysis discovered about the number of charging stations available compared to the number of cars purchased. Your data has confirmed that the lack of charging stations causes the effect of fewer car sales. To communicate this effectively, you will need to convey causation to the stakeholders. Fill in the blank: You explain that causation is when an action \_\_\_\_ an outcome. In the case of Gaea's business, causation can be used to discuss the relationship between lack of charging stations and fewer car sales. O moves in relationship to O changes the timing of prevents occurrence of directly leads to

Causation is when an action directly leads to an outcome, such as a cause-effect relationship. In the case of Gaea's business, the lack of charging stations directly leads to the outcome of fewer car sales.

✓ Correct

After reviewing your draft, you realize that it could be improved. What steps do you take to make your map

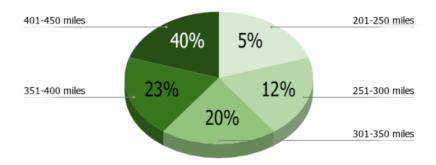
#### 8. Scenario 1, continued

Once you finish creating data visualizations about the current state of the electric vehicle market, you turn to projections for the future. You want to communicate to stakeholders about the importance of longer vehicle battery range to consumers.

Your team's data includes feedback from a consumer survey that investigated the importance of longer battery when choosing whether to purchase an electric car. The current average battery range is about 210 miles. By 2025, that range is expected to grow to 450 miles per charge.

You create the following pie chart:

## How Many Miles Per Charge Would You Require in Order to Purchase an Electric Vehicle?



After reviewing your pie chart, you realize that it could be improved by resizing the segments. Resizing the segments in proportion to each segment's relative value enables you to visually show the different values.

True

O False

✓ Correct

Resizing the segments enables you to visually show the different values. When the segments are all the same size, even though they represent different values, this will confuse the audience.

#### 3. Scenario 1, continued

It's time to build your Tableau dashboard for stakeholders. You consider what type of layout to use.

You decide that you want to be able to adjust the height of the views and the data visualizations about electric vehicle sales, charging stations, and battery range. Which type of layout will enable you to do that?

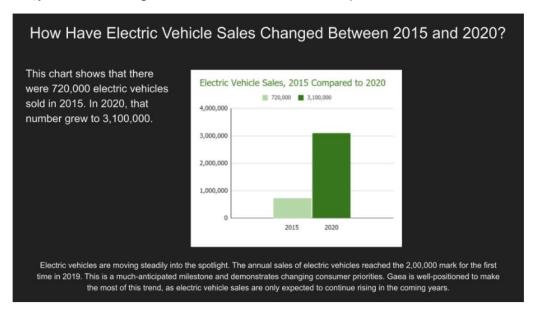
Vertical layout
 Circular layout
 Diagonal layout
 Horizontal layout

A vertical layout will enable you to adjust the height of the views and objects contained.

#### 10. Scenario 2, questions 10-15

You have created your narrative and visuals, so now it's time to build a professional and appealing slideshow. You choose a theme that matches the tone of your presentation. Then, you create a title slide with a title, subtitle, and the date.

Next, you create the following slide about electric vehicle sales in 2015 compared to 2020:



After reviewing it, you decide to decrease the number of words on your slide. For what reasons will this make your slide more effective? Select all that apply.

The text shouldn't simply repeat the words you say

#### **⊘** Correct

Removing the text box at the bottom improves your slide in three ways: First, it eliminates text with a font size that is too small to read. Second, it reduces the slide's word count to fewer than 25 words. Third, it ensures that the text does not simply repeat the words you say.

✓ Slide text should be fewer than 25 words total

#### ✓ Correct

Removing the text box at the bottom improves your slide in three ways: First, it eliminates text with a font size that is too small to read. Second, it reduces the slide's word count to fewer than 25 words. Third, it ensures that the text does not simply repeat the words you say.

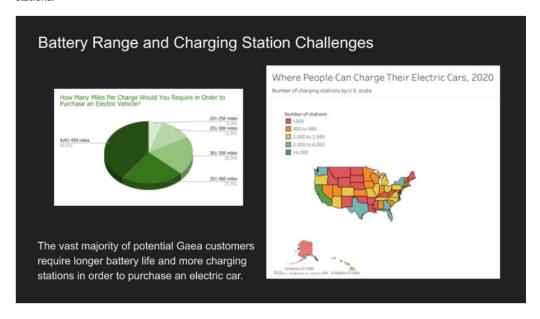
- ☐ Slide text should be no more than 10 lines total
- The font size is too small for your audience to read

#### ✓ Correct

Removing the text box at the bottom improves your slide in three ways: First, it eliminates text with a font size that is too small to read. Second, it reduces the slide's word count to fewer than 25 words. Third, it ensures that the text does not simply repeat the words you say.

#### 11. Scenario 2, continued

You then create the following slide to demonstrate the challenges associated with battery range and charging stations:



After reviewing your slide, you realize that the visual elements could be improved. A good solution would be for you to choose one data visualization to share on this slide, then create another slide for the second data visualization.



O False



To improve the visual elements, you should choose one data visualization to share on this slide, then create another slide for the second data visualization.

#### 12. Scenario 2, continued

You complete your slideshow and share it with your team. Once it is approved by your supervisor, you begin preparing to give your presentation. You consider maintaining good posture, being aware of nervous habits, a making eye contact. In addition, you think about how you will speak.



Correct
 To speak effectively, you should practice using short words and sentences, keeping the pitch of your

☑ Building in intentional pauses to give your audience time to think about what you have just said

## Correct To speak effectively, you should practice using short words and sentences, keeping the pitch of your sentences level, and building in intentional pauses.

Keeping the pitch of your sentences level so that your statements are not confused for questions

# Correct To speak effectively, you should practice using short words and sentences, keeping the pitch of your sentences level, and building in intentional pauses.

Speaking quickly so you are sure to have time to include all important data points

#### 13. Scenario 2, continued

Next, you prepare for the question-and-answer session that will follow your presentation. What methods help you consider any limitations of your data? Select all that apply.

Understand the strengths and weaknesses of the tools

sentences level, and building in intentional pauses.

Correct
To help you consider any limitations of your data, critically analyze the correlations, look at the context, and understand the strengths and weaknesses of the tools.

☐ Look at the context

Critically analyze the correlations

Correct
To help you consider any limitations of your data, critically analyze the correlations, look at the context, and understand the strengths and weaknesses of the tools.

■ Eliminate the outliers

You didn't select all the correct answers

#### 14. Scenario 2, continued

Now that you have some idea of the questions the stakeholders will ask, you and a team member consider different objections that might arise.

Your team member asks you how you will respond if someone from Gaea questions your data-cleaning process. How do you prepare for this objection? Select all that apply.

- ☐ Be prepared to explain why data cleaning is not relevant at this stage of the project
- Keep a detailed log of your data-cleaning process

#### 

You prepare by keeping a detailed log of your data-cleaning process. Then, you add your data-cleaning log to the slideshow appendix and practice answering questions about your data-cleaning process.

Add your data-cleaning log to the slideshow appendix

#### 

You prepare by keeping a detailed log of your data-cleaning process. Then, you add your data-cleaning log to the slideshow appendix and practice answering questions about your data-cleaning process.

✓ Practice answering questions about your data-cleaning process

#### 

You prepare by keeping a detailed log of your data-cleaning process. Then, you add your data-cleaning log to the slideshow appendix and practice answering questions about your data-cleaning process.

#### 15. Scenario 2, continued

The big day has arrived, and you have just finished giving your presentation to the Gaea team. It's now time for the question-and-answer session, and a stakeholder asks you a very detailed question about one specific electric vehicle charging station initiative.

You listen to the whole question, then repeat it. For what reasons is this important? Select all that apply.

It ensures the entire audience has heard the question, in case they did not when it was originally asked

#### **⊘** Correct

Listening to the whole question and repeating it helps you confirm that you understand the question. It also gives the stakeholder a chance to correct you if you misunderstand and ensures the entire audience has heard the question.

It gives the stakeholder a chance to correct you if you misunderstand

#### **⊘** Correct

Listening to the whole question and repeating it helps you confirm that you understand the question. It also gives the stakeholder a chance to correct you if you are misunderstanding and ensures the entire audience has heard the question.

- ☐ It helps you confirm that you understand the question
- It enables you to rephrase it in a way that is easier to answer

#### X This should not be selected

Review the video about listening and responding for a refresher.