# Week 4 Quiz

**15/16 points (93.75%)**

Quiz, 16 questions

## Congratulations! You passed!

Next Item

1 / 1 points

1.
The hourglass model is a framework for structuring effective business presentations. Which of the following is **NOT** part of the hourglass model? **Choose all that apply.**

- [x] A complete description of all the analyses you tried

**Correct**
Although the hourglass model does mention agendas, it does not recommend that you open your presentation with an agenda unless that's what your company culture requires. Further, it recommends that you only present a few key analyses in a logical order, not every analysis that you tried.

- [x] Opening your presentation with an agenda

**Correct**
Although the hourglass model does mention agendas, it does not recommend that you open your presentation with an agenda unless that's what your company culture requires. Further, it recommends that you only present a few key analyses in a logical order, not every analysis that you tried.

- [ ] Statement of the benefits that will result based on your recommendations

**Un-selected is correct**

- [ ] A 30-60 second presentation of the "big picture" of the problem you are trying to solve

**Un-selected is correct**

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2.

Beginning your business presentation in the middle of the plot of a motivational story can sometimes be an effective way to lead into your business recommendation.

- [x] True

**Correct**

Correct! Beginning your business presentation in the middle of the plot of a motivational story can create a sense of momentum and expectation for what will come next, which can sometimes be an effective way to lead into your business recommendation.

- [ ] False

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1 / 1 points

3.

The storyboarding process includes:

- [ ] asking for feedback
- [ ] determining the precise order in which the scenes will be organized
- [ ] choosing the best visualizations to communicate the information of each scene
- [ ] narrowing in on the minimum number of scenes necessary to convey your data story
- [x] all of the above

**Correct**

Correct! The storyboarding process includes all of these components.

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1 / 1 points

4.

According to the psychology literature, if the business recommendation you are going to make in a business presentation is likely to be controversial, you should order the stem of your presentation hourglass so that the:

- [ ] most emotional story point is presented first.

strongest story point is presented first.

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least controversial point is presented first.

**Correct**

Correct! People are more likely to be persuaded by an argument if you get them into a general feeling of agreement first, so starting with your least controversial point will get your audience used to saying "yes" before you present them with something to which they might want to say "no."

least complicated story point is presented first.

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1 / 1 points

5.

The logical fallacy of overgeneralization can be avoided by removing outliers and rows with missing data.

TRUE

FALSE

**Correct**

You're right! The outliers or missing data may share common characteristics, so removing them without prior examination could bias your data. If the data are biased, removing them will lead to overgeneralized conclusions.

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1 / 1 points

6.

To test whether a certain advertising campaign would work, an analytics team sorts their customer list from lowest to highest customer ID number, and then sends their advertisement to the first 1000 customers on the list. The rest of the customers did not receive any advertisements that week. When analyzing the results of the campaign one week later, the analytics team realized that there was a previously unknown pattern in the customer ID numbers: the lower the customer number, the longer the person had been a customer. Thus, the customers who received the advertisement were the individuals who had been customers with the company the longest. The analytics team decided the test was invalid and needed to be repeated. The reason for their decision was that analyzing the results in their current form would result in the following logical fallacy (or fallacies):

Over-generalization

**Correct**

Correct! Although the team was correct to evaluate the causal power of the advertisement on purchasing using a test, the testing group used was systematically different from the control group used (the rest of the customers) in ways other than whether or not they received an advertisement. All of the customers in the testing group would have been customers longer than the customers in the control group, so it would have been impossible to differentiate whether any observed differences in purchasing between the two groups were due to the advertisement, or due to how long customers had interacted with the company.

- Inferring causation from correlation
- Lack of controls
- All of the above
- None of the above

---

1 / 1 points

7.

When two variables are correlated, one variable does not cause the other variable.

- True
- False

**Correct**

You're right! Although a correlation between two variables does not mean one variable *must cause* the other variable, it still *permits the possibility* that one variable causes the other.

---

1 / 1 points

8.

When tests can't be run, which of the following can data analysts do to assess the degree of confidence one should have in the nature of a correlation between two variables? **Choose all that apply.**

- [x] Identify different but complementary ways to use the same data set to assess the causal relationship about which you are hypothesizing.

**Correct**

Correct! As we saw in the graphs of spurious correlations, just because a correlation is very strong, doesn't mean that it will be observed again or represents a causal relationship.

Attempt to replicate the effect by examining whether the correlation on which you are basing your business recommendation exists in other data sets or contexts.

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**Correct**

Correct! As we saw in the graphs of spurious correlations, just because a correlation is very strong, doesn't mean that it will be observed again or represents a causal relationship.

Assess whether there are additional variables that can explain the relationship.

**Correct**

Correct! As we saw in the graphs of spurious correlations, just because a correlation is very strong, doesn't mean that it will be observed again or represents a causal relationship.

Infer that if the observed effect is extremely large or obvious, it is likely real.

**Un-selected is correct**

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1 / 1 points

9.

Which of these charts would be the best way to display how Smartphone sales have changed over time?

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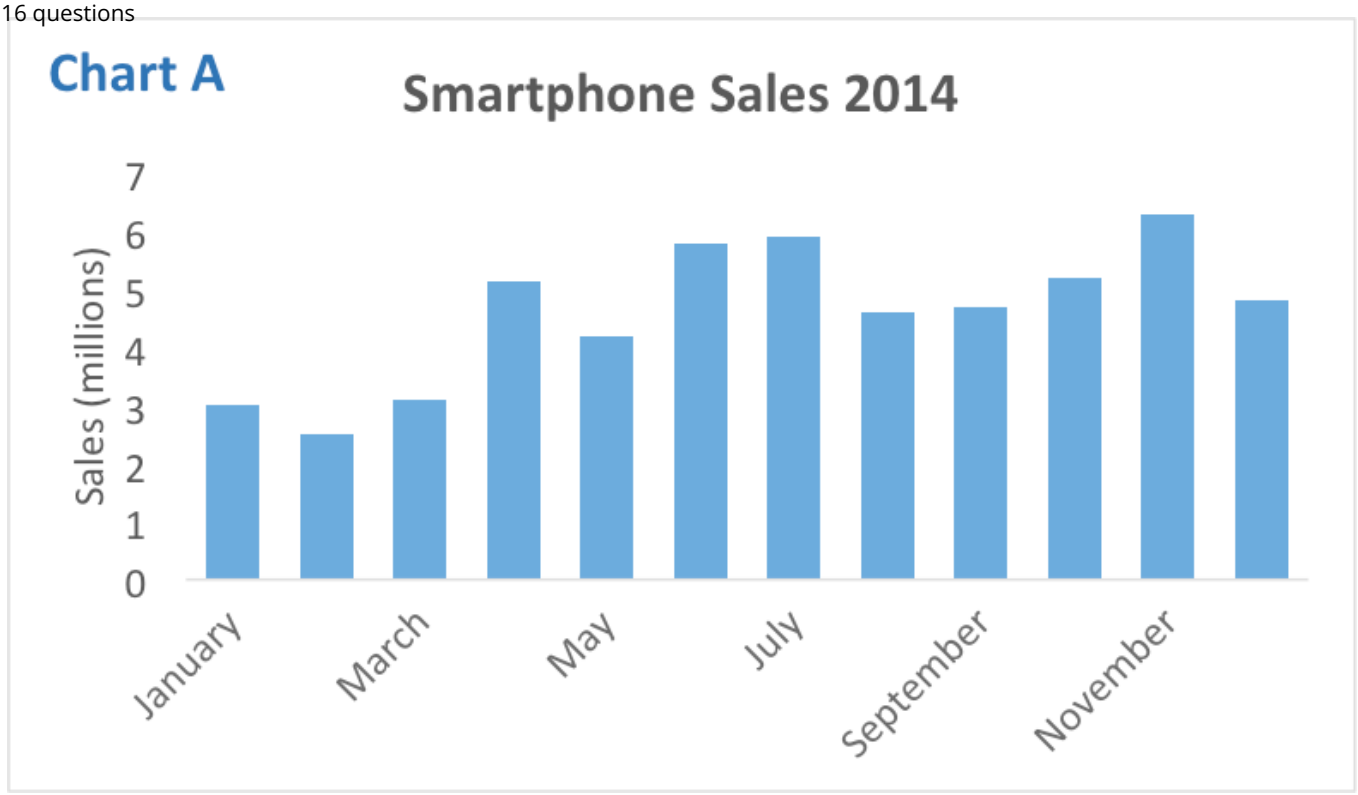


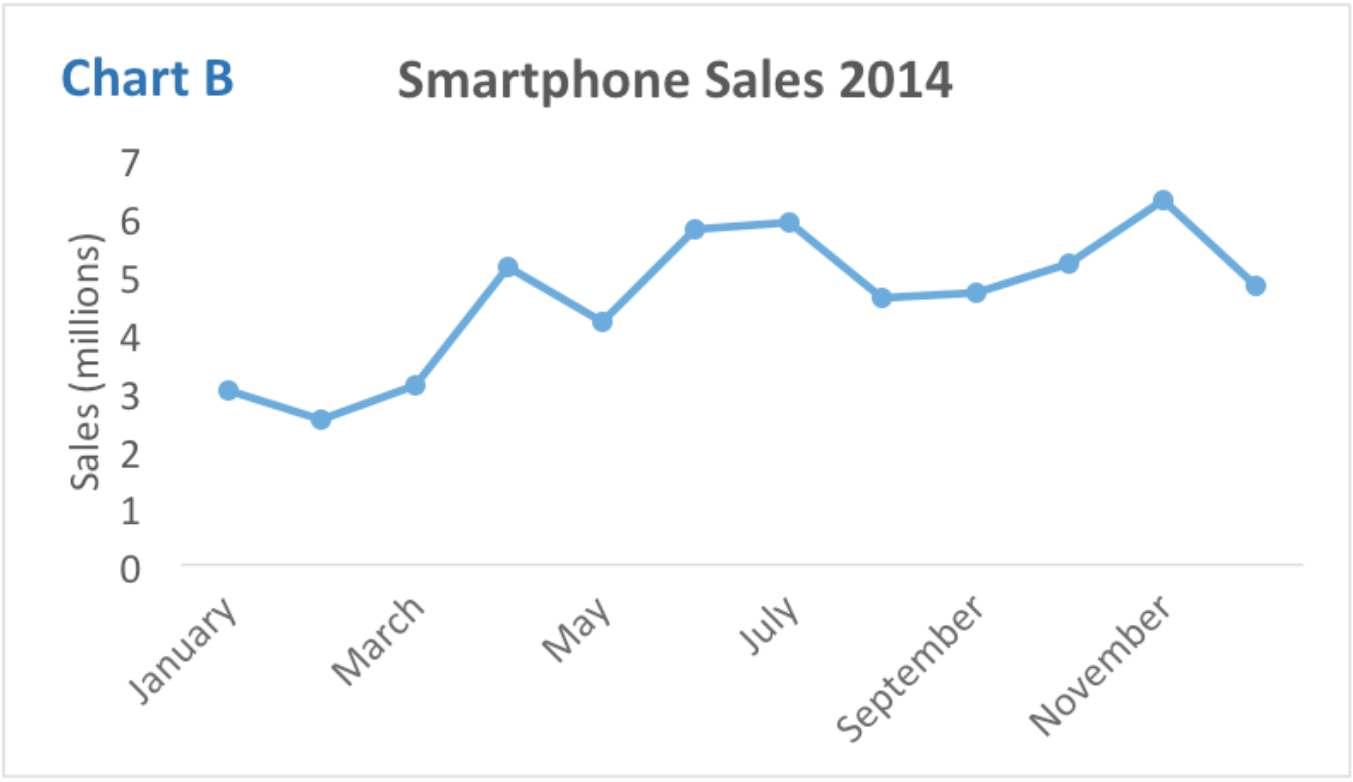

Chart A and Chart B are equally effective

Chart A

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Neith Chart A nor Chart B is effective

Chart B

**Correct**
Our eyes naturally follow the lines on the chart and interpret them as if the points on the line have some kind of sequential relationship. Bar graphs are better for displaying separate categories of information that don't necessarily have a sequential relationship.

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1 / 1 points

10.
When you want to represent very detailed and nuanced information about continuous variables, given humans' ability to perceive relative differences along different kinds of visual attributes, which of the following attributes should you exploit in your visualizations? **Choose the best 2 options.**

Color

**Un-selected is correct**

Area

**Un-selected is correct**

Length

**Correct**
Humans are best at perceiving difference in length.

Position

**Correct**
Humans are best at perceiving difference in position.

Volume

**Un-selected is correct**

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11.

If you are in a situation where you MUST use colorbars to represent detailed information about a continuous variable, you should:

- [x] use a gray scale that goes from black to white.

**Correct**

Correct! Black to white scales tend to have more even transitions than do color scales, so what you perceive as 1 unit of change in color is more likely to represent 1 unit of physical distance along a grayscale colorbar than a multi-colored colorbar.

- [ ] use a colorbar that color-blind people can perceive.
- [ ] use colors that are very bright so that they can easily be detected.
- [ ] use colorbars that only have gradations from one color to a second color so that the audience isn't distracted by excess color.

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1 / 1 points

12.

Visualizations for persuasion should: **(Choose all that apply)**

- [x] direct your audience's eyes to the precise points of the data that support your argument.

**Correct**

Correct! Visualizations for analysis should often show as much data as possible, but visualizations for persuasion should filter to show only the data that supports the argument you are making.

- [x] show as much data as possible.

**Un-selected is correct**

- [x] show selected pieces of data.

**Correct**
Correct! Visualizations for analysis should often show as much data as possible, but visualizations for persuasion should filter to show only the data that supports the argument you are making.

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- [x] show the visualizations in an order that helps your audience evaluate the options clearly.

**Correct**
Correct! Visualizations for analysis should often show as much data as possible, but visualizations for persuasion should filter to show only the data that supports the argument you are making.

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1 / 1 points

13.
Data-ink refers to:

- ( ) the color of the ink used to represent data.
- ( ) all the ink on a slide.
- ( ) the ink that is used to make the borders of the data in graphs.
- (•) the ink that represents the actual data in a graphic.

**Correct**
Edward Tufte, a statistician and political scientist who became a pioneer in data visualization, coined the term when he began using the phrase “Maximize the data-ink ratio.”

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1 / 1 points

14.
It’s a good idea to apply the rule of thirds to: **(Choose all that apply)**

- [x] Transition slides

**Correct**
Data slides should display the data in the center of the slide and thus do not follow the rule of thirds.

Slides illustrating stories

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**Correct**
Data slides should display the data in the center of the slide and thus do not follow the rule of thirds.

Soft break slides

**Correct**
Data slides should display the data in the center of the slide and thus do not follow the rule of thirds.

Slides meant to catch your audience's attention

**Correct**
Data slides should display the data in the center of the slide and thus do not follow the rule of thirds.

Slides containing data

**Un-selected is correct**

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1 / 1 points

15.
Effective presentation techniques include:

keeping a physically open posture by keeping your arms away from the front of your body

facing your audience and looking at different people in the room

being natural in your movements

refraining from looking down or reading your slides.

all of the above

**Correct**
Correct! All of these techniques will greatly improve how your presentation is received.

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0 / 1

points

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A hospital was having problems with the amount of time employees with direct care responsibilities were absent from work. Due to the high levels of absenteeism, patient satisfaction was declining, 20% of patient-related work was not getting done, and 47% of non-patient work was not getting done. At the advice of a consulting company, the hospital implemented a positive incentive system that would allow all employees to convert up to 24 hours of unused sick time into additional pay or more vacation days in order to reduce absenteeism. After 6 months of implementing the program, the hospital analysts calculated that absentee rates declined an average of 11.5 hours per employee, and concluded that the program was successful in this company. Did the hospital analysts commit any logical fallacies when arriving at their conclusion, and if so, which fallacy (or fallacies)?

- Lack of controls
- Overgeneralization

**This should not be selected**

Logical fallacies can be tricky to identify. Watch the videos in the lesson *Incorrect Conclusions Based on Lack of Controls or Comparisons* to review how each logical fallacy plays out.

- Inferring causation from correlation
- None of the above
- All of the above