

✓ Congratulations! You passed!

Grade
received 100%

Latest Submission
Grade 100%

To pass 80% or
higher

Retake the
assignment in 52
min

Go to
next
item

1. Which of the following statements accurately describe the null hypothesis? Select all that apply.

1 / 1 point

- ☐ The null hypothesis is accepted as true only if there is convincing evidence for it.
- ☐ The null hypothesis typically assumes that observed data does not occur by chance.
- ☒ The null hypothesis is assumed to be true unless there is convincing evidence to the contrary.

✓ Correct

- ☒ The null hypothesis typically assumes that observed data occurs by chance.

✓ Correct

2. What term describes the probability of rejecting the null hypothesis when it is true?

1 / 1 point

- ☐ P-value
- ☐ Alternative hypothesis
- ☒ Significance level
- ☐ Statistical significance

✓ Correct

3. To draw a conclusion about the null hypothesis, what two concepts are compared?

1 / 1 point

- ☒ P-value and significance level
- ☐ Confidence level and significance level
- ☐ Alternative hypothesis and significance level
- ☐ P-value and alternative hypothesis

✓ Correct

4. A data professional conducts a hypothesis test. When they draw their conclusion, they commit a type II error. Which of the following statements accurately describe this scenario? Select all that apply.

1 / 1 point

- ☒ They concluded their result occurred by chance, but it was actually statistically significant.

✓ Correct

- ☒ They have failed to reject a null hypothesis, which is actually false.

✓ Correct

- ☒ They have made an error known as a false negative.

✓ Correct

- ☐ They have made an error known as a false positive.

5. A data professional at an emergency response center conducts a hypothesis test to identify optimal ambulance routes. They just found the p-value. What should they do next?

1 / 1 point

- ☐ State the null hypothesis
- ☐ Choose the significance level
- ☐ State the alternative hypothesis
- ☒ Reject or fail to reject the null hypothesis

✓ Correct

6. A data professional conducts a hypothesis test. They choose a significance level of 10%. They calculate a p-value of 12.4%. What conclusion should they draw?

1 / 1 point

- ☒ Fail to reject the null hypothesis.
- ☐ Reject the alternative hypothesis.
- ☐ Reject the null hypothesis
- ☐ Fail to reject the alternative hypothesis.

✓ Correct

7. In a one-sample hypothesis test of the mean, what are the typical options for the alternative hypothesis? Select all that apply.

1 / 1 point

- ☐ The population mean is equal to an observed value.
- ☒ The population mean is greater than an observed value.

✓ Correct

- ☒ The population mean is less than an observed value.

✓ Correct

- ☒ The population mean is not equal to an observed value.

✓ Correct

8. A data professional conducts a hypothesis test to compare the mean annual sales of two different restaurants in the same restaurant chain. They write the following code:

1 / 1 point

```
scipy.stats.ttest_ind(a=530, b=550, equal_var=False)
```

What does the argument `a=530` refer to?

- ☒ Observations from the first sample
- ☐ P-value
- ☐ Significance level
- ☐ Whether or not the population variance of the two samples is assumed to be equal

✓ Correct