Try again once you are ready

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Try again

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

- [ ] The null hypothesis typically assumes that observed data does not occur by chance.
- [x] The alternative hypothesis typically assumes that observed data does not occur by chance.

Correct

- [x] The null hypothesis typically assumes that observed data occurs by chance.

Correct

- [ ] The alternative hypothesis typically assumes that observed data occurs by chance.

2. What term describes the probability of rejecting the null hypothesis when it is true? **0 / 1 point**

- ( ) Alternative hypothesis
- ( ) Significance level
- ( ) P-value
- (•) Statistical significance

Incorrect
Review the video that introduces hypothesis testing.

3. When would a data professional reject the null hypothesis? **1 / 1 point**

- ( ) When their significance level is less than their p-value
- (•) When their p-value is less than their significance level
- ( ) When their p-value is less than their test statistic
- ( ) When their test statistic is less than their p-value

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. **0.75 / 1 point**

- [x] They have made an error known as a false negative.

Correct

- [x] They have failed to reject a null hypothesis, which is actually false.

Correct

- [ ] They concluded their result occurred by chance, but it was actually statistically significant.
- [ ] They have made an error known as a false positive.

You didn't select all the correct answers

5. A data analytics team in the landscaping industry conducts a hypothesis test to compare the effects of certain fertilizers on flower production. To start, they state the null hypothesis and the alternative hypothesis. Then they choose a significance level. What should they do next? **0 / 1 point**

- (•) Identify the confirmed assumption
- ( ) Reject or fail to reject the null hypothesis
- ( ) Find the p-value
- ( ) Select the sample data

Incorrect
Review the video that introduces hypothesis testing.

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**

- ○ Reject the alternative hypothesis.
- ○ Fail to reject the alternative hypothesis.
- ◉ Fail to reject the null hypothesis.
- ○ Reject the null 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. **0.25 / 1 point**

- ☐ The population mean is greater than an observed value.
- ☑ The population mean is not equal to an observed value.

✓ **Correct**

- ☑ The population mean is equal to an observed value.

✗ **This should not be selected**
Review the video about one-sample tests for means.

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

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
- ○ Significance level
- ○ Whether or not the population variance of the two samples is assumed to be equal
- ○ P-value

✓ **Correct**