Congratulations! You passed!

Grade received 100% **To pass** 80% or higher

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1. Fill in the blank: The _____ typically assumes that observed data does not occur by chance. **1 / 1 point**

- (●) alternative hypothesis
- ( ) null hypothesis
- ( ) objective hypothesis
- ( ) subjective hypothesis

Correct
The alternative hypothesis typically assumes that observed data does not occur by chance. The alternative hypothesis is a statement that contradicts the null hypothesis. It is accepted as true only if there is convincing evidence for it.

2. Which of the following statements describe significance level? Select all that apply. **1 / 1 point**

- [x] Significance level is the probability of rejecting a null hypothesis when it is true.

Correct
Significance level is the threshold at which a result is considered statistically significant. It is also the probability of rejecting a null hypothesis when it is true.

- [x] Significance level is the threshold at which a result is considered statistically significant.

Correct
Significance level is the threshold at which a result is considered statistically significant. It is also the probability of rejecting a null hypothesis when it is true.

- [ ] Significance level is the threshold at which a result is considered to be due to chance.
- [ ] Significance level is the probability of rejecting an alternative hypothesis when it is true.

3. What concept refers to the probability of observing results that are at least as extreme as those observed when the null hypothesis is true? **1 / 1 point**

- ( ) Statistical significance
- (●) P-value
- ( ) Z-score
- ( ) Confidence level

Correct
P-value refers to the probability of observing results that are at least as extreme as those observed when the null hypothesis is true.

4. A data professional conducts a hypothesis test. They mistakenly conclude that their result is statistically significant when it actually occurred by chance. What type of error does this scenario describe? **1 / 1 point**

- (●) Type I
- ( ) Type II
- ( ) Type III
- ( ) Type IV

Correct
This scenario describes a type I error. A type 1 error, also known as a false positive, occurs when a null hypothesis is rejected that is actually true.