Hypothesis Testing Practice Problems

1. The first step of a hypothesis test is to:
 a. state the null and alternative hypotheses
 b. collect the data
 c. set the criteria for likelihood
 d. draw a sketch

2. The most common alpha levels are:
 a. .05, .10, .25
 b. .05, .01, .001
 c. 100, 50, 10
 d. .01, .02, .03

3. Which of the following accurately describes a hypothesis test?
 a. an inferential technique that uses information about a population to make predictions about a sample
 b. a descriptive technique that allows researchers to describe a population
 c. an inferential technque that uses data from a sample to draw inferences about a population
 d. a descriptive technque that allows researchers to describe a sample

4. What is the consequence of a Type I error?
 a. concluding that a treatment has an effect when it really has no effect
 b. concluding that a treatment has no effect when it really has no effect
 c. concluding that a treatment has an effect when it really does
 d. concluding that a treatment has no effect when it really has no effect

5. What is the consequence of a Type II error?
 a. concluding that a treatment has an effect when it really has no effect
 b. concluding that a treatment has an effect when it really does have an effect
 c. concluding that a treatment has no effect when it really has no effect
 d. concluding that a treatment has no effect when it really does have an effect

6. The critical region for a hypothesis test consists of sample outcomes that are very unlikely to occur if the null hypothesis is true.
 True
 False

7. The alpha level determines the risk of a Type I error.
 True
 False

8. A researcher is evaluating a treatment that is expected to increase scores. If a one-tailed test with alpha=.05 is used, then the critical region consists of z-scores greater than 1.65.
 True
 False

9. For a non-directional (two-tailed test) with an alpha level of .05, the z-scores for the critical boundaries are:
 a. .01
 b. 1.65
 c. +1.96 only
 d. -1.96 and +1.96

10. If the value we calculate falls within the body of the distribution, between the critical areas, our decision is to:
 a. Decide the outcome is unlikely to happen. Reject the null.
 b. Decide the outcome is likely to happen. Fail to reject the null.

11. A college conducts a study on the effect of class size on learning. They conclude that there is no effect of class size on learning. If the study conclusion is wrong and in reality there really is an effect, they have made:
 a. power
 b. Type I error
 c. Type II error
 d. Falsified data

12. Say you read a study which reports that researchers have found a link between grad school success and GRE scores. What if in reality, there is no link between grad school success and GRE scores. Then those researchers have made:
 a. a correct decision
 b. a Type I error
 c. a Type II error
 d. Power

Hypothesis Testing Practice Problems

1. The first step of a hypothesis test is to:
a. state the null and alternative hypotheses
b. collect the data
c. set the criteria for likelihood
d. draw a sketch

2. The most common alpha levels are:
a. .05, .10, .25
b. .05, .01, .001
c. 100, 50, 10
d. .01, .02, .03

3. Which of the following accurately describes a hypothesis test?
a. an inferential technique that uses information about a population to make predictions about a sample
b. a descriptive technique that allows researchers to describe a population
c. an inferential technque that uses data from a sample to draw inferences about a population
d. a descriptive technque that allows researchers to describe a sample

4. What is the consequence of a Type I error?
a. concluding that a treatment has an effect when it really has no effect
b. concluding that a treatment has no effect when it really has no effect
c. concluding that a treatment has an effect when it really does
d. concluding that a treatment has no effect when it really has no effect

5. What is the consequence of a Type II error?
a. concluding that a treatment has an effect when it really has no effect
b. concluding that a treatment has an effect when it really does have an effect
c. concluding that a treatment has no effect when it really has no effect
d. concluding that a treatment has no effect when it really does have an effect

6. The critical region for a hypothesis test consists of sample outcomes that are very unlikely to occur if the null hypothesis is true.
True
False

7. The alpha level determines the risk of a Type I error.
True
False

8. A researcher is evaluating a treatment that is expected to increase scores. If a one-tailed test with alpha=.05 is used, then the critical region consists of z-scores greater than 1.65.
True
False

9. For a non-directional (two-tailed test) with an alpha level of .05, the z-scores for the critical boundaries are:
a. .01
b. 1.65
c. +1.96 only
d. -1.96 and +1.96

10. If the value we calculate falls within the body of the distribution, between the critical areas, our decision is to:
a. Decide the outcome is unlikely to happen. Reject the null.
b. Decide the outcome is likely to happen. Fail to reject the null.

11. A college conducts a study on the effect of class size on learning. They conclude that there is no effect of class size on learning. If the study conclusion is wrong and in reality there really is an effect, they have made:
a. power
b. Type I error
c. Type II error
d. Falsified data

12. Say you read a study which reports that researchers have found a link between grad school success and GRE scores. What if in reality, there is no link between grad school success and GRE scores. Then those researchers have made:
a. a correct decision
b. a Type I error
c. a Type II error
d. Power