QUIZIZZ Worksheets

Name

ASE.2024.02

Total questions: 10

Worksheet time: 5mins

Instructor name: Firas Jolha

Class

Date

1. In hypothesis testing, which statement is correct?

   a) The null hypothesis is assumed to be true until proven otherwise.

   b) The alternative hypothesis is always accepted.

   c) The rejection region is based on the sampling distribution.

   d) The p-value is the probability of accepting the null hypothesis.

2. A researcher wants to test if a new drug reduces the average cholesterol level in patients. Which hypothesis is appropriate for this scenario?

   a) Null Hypothesis: The new drug increases the average cholesterol level in patients.

   b) Null Hypothesis: The average cholesterol level in patients is not affected by the new drug.

   c) Null Hypothesis: The new drug reduces the average cholesterol level in patients.

   d) Null Hypothesis: There is no relationship between the new drug and the average cholesterol level in patients.

3. A teacher wants to determine if the average test score of students who attend after-school tutoring is different from the average test score of students who do not attend tutoring. Which hypothesis test should be used?

   a) One-sample t-test

   b) Paired t-test

   c) Chi-square test

   d) Two-sample t-test

4. A company claims that their new marketing strategy has increased customer engagement on their website. The null hypothesis for this claim would be:

   a) The new marketing strategy may or may not have increased customer engagement on the website.

   b) The new marketing strategy has increased customer engagement on the website.

   c) The increase in customer engagement on the website is solely due to factors other than the new marketing strategy.

   d) There is no increase in customer engagement on the website due to the new marketing strategy.

5. A manufacturing company wants to test if a new manufacturing process reduces the average defect rate of their products. Which hypothesis is appropriate for this scenario?

   a) Null Hypothesis: The new manufacturing process reduces the average defect rate of the products.
   b) Null Hypothesis: There is no relationship between the new manufacturing process and the average defect rate of the products.
   c) Null Hypothesis: The average defect rate of the products is not affected by the new manufacturing process.
   d) Null Hypothesis: The new manufacturing process increases the average defect rate of the products.

6. A scientist wants to test if a new fertilizer increases the average yield of a crop compared to the standard fertilizer. Which hypothesis is appropriate for this scenario?

   a) Null Hypothesis: The new fertilizer decreases the average yield of the crop.
   b) Null Hypothesis: There is no relationship between the new fertilizer and the average yield of the crop.
   c) Null Hypothesis: The average yield of the crop is not affected by the new fertilizer.
   d) Null Hypothesis: The new fertilizer increases the average yield of the crop.

7. A Type II error in hypothesis testing occurs when:

   a) The null hypothesis is not rejected when it is actually false.
   b) The alternative hypothesis is rejected when it is actually true.
   c) The alternative hypothesis is not rejected when it is actually false.
   d) The null hypothesis is rejected when it is actually true.

8. In hypothesis testing, the level of significance is:

   a) A measure of the strength of evidence against the null hypothesis.
   b) The probability of accepting the null hypothesis when it is actually true.
   c) The probability of rejecting the null hypothesis when it is actually true.
   d) The probability of committing a Type II error.
   e) The probability of committing a Type I error.

9. A confidence interval represents:

a) The range of values within the critical region.
b) The probability of rejecting the null hypothesis.
c) An estimated range of values that likely contains the true population parameter.
d) The threshold for determining statistical significance.
e) The probability of obtaining the observed sample result or more extreme, assuming the null hypothesis is true.

10. What is the critical region in hypothesis testing?

a) The threshold for determining statistical significance.
b) The probability of accepting the null hypothesis when it is actually true.
c) The range of sample values that lead to the rejection of the null hypothesis.
d) The range of population values where the alternative hypothesis is true.
e) The probability of committing a Type II error.

Answer Keys

1. a) The null hypothesis is assumed to be true until proven otherwise.
2. b) Null Hypothesis: The average cholesterol level in patients is not affected by the new drug.
3. d) Two-sample t-test
4. d) There is no increase in customer engagement on the website due to the new marketing strategy.
5. c) Null Hypothesis: The average defect rate of the products is not affected by the new manufacturing process.
6. c) Null Hypothesis: The average yield of the crop is not affected by the new fertilizer.
7. a) The null hypothesis is not rejected when it is actually false.
8. c) The probability of rejecting the null hypothesis when it is actually true.
9. c) An estimated range of values that likely contains the true population parameter.
10. c) The range of sample values that lead to the rejection of the null hypothesis.