

STATISTICS WORKSHEET-8

1. In hypothesis testing, type II error is represented by β and the power of the test is $1-\beta$ then β is:

Ans: b) The probability of failing to reject H_0 when H_1 is true

2. In hypothesis testing, the hypothesis which is tentatively assumed to be true is called the

Ans: b) null hypothesis

3. When the null hypothesis has been true, but the sample information has resulted in the rejection of the null, a _____ has been made

Ans: d) Type I error

4. For finding the p-value when the population standard deviation is unknown, if it is reasonable to assume that the population is normal, we use

Ans: b) the t distribution with $n - 1$ degrees of freedom

5. A Type II error is the error of

Ans: b) accepting H_0 when it is true

6. A hypothesis test in which rejection of the null hypothesis occurs for values of the point estimator in either tail of the sampling distribution is called

Ans: d) a two-tailed test

7. In hypothesis testing, the level of significance is

Ans: b) the probability of committing a Type I error

8. In hypothesis testing, β is

Ans: a) the probability of committing a Type II error

9. When testing the following hypotheses at an α level of significance $H_0: p = 0.7$
 $H_1: p > 0.7$

The null hypothesis will be rejected if the test statistic Z is

Ans: a) $z > z\alpha$

10. Which of the following does not need to be known in order to compute the P-value? a. knowledge of whether the test is one-tailed or two-tail

Ans: c) the level of significance

11. The maximum probability of a Type I error that the decision maker will tolerate is called the

Ans: a) level of significance

12. For t distribution, increasing the sample size, the effect will be on

Ans: a) Degrees of Freedom

13. What is Anova in SPSS?

Ans: In SPSS, ANOVA (Analysis of Variance) is a statistical technique used to compare the means of three or more groups or treatments. It determines whether the means of two or more groups are significantly different from each other.

14. What are the assumptions of Anova?

Ans: The assumptions of ANOVA include:

- 1. Normality: The dependent variable should be normally distributed within each group or treatment.**
- 2. Homogeneity of variance: The variance of the dependent variable should be equal across all groups or treatments.**
- 3. Independence: The observations should be independent of each other within and between groups or treatments.**

15. What is the difference between one way Anova and two way Anova

Ans: The main difference between one-way ANOVA and two-way ANOVA is the number of independent variables or factors. One-way ANOVA is used when there is

only one independent variable or factor, whereas two-way ANOVA is used when there are two independent variables or factors. In two-way ANOVA, the interaction between the two factors is also examined in addition to their main effects. One-way ANOVA compares the means of three or more groups or treatments, while two-way ANOVA compares the means of multiple groups or treatments across two independent variables or factors.