

## STATISTICS WORKSHEET-8

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

- a. The probability of rejecting  $H_0$  when  $H_1$  is true
- b. The probability of failing to reject  $H_0$  when  $H_1$  is true
- c. The probability of failing to reject  $H_1$  when  $H_0$  is true
- d. The probability of rejecting  $H_0$  when  $H_1$  is true

→ B. The probability of rejecting  $H_0$  when  $H_1$  is true.

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

- a. correct hypothesis
- b. null hypothesis
- c. alternative hypothesis
- d. level of significance

→ 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

- a. level of significance
- b. Type II error
- c. critical value
- d. Type I error

→ 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

- a. the z distribution
- b. the t distribution with  $n - 1$  degrees of freedom
- c. the t distribution with  $n + 1$  degrees of freedom
- d. none of the above

→ d. none of the above

5. A Type II error is the error of

- a. accepting  $H_0$  when it is false
- b. accepting  $H_0$  when it is true
- c. rejecting  $H_0$  when it is false
- d. rejecting  $H_0$  when it is true

→

- c. rejecting  $H_0$  when it is false

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

- a. the null hypothesis
- b. the alternative hypothesis
- c. a one-tailed test
- d. a two-tailed test

→ d. a two-tailed test

7. In hypothesis testing, the level of significance is

- a. the probability of committing a Type II error
- b. the probability of committing a Type I error
- c. the probability of either a Type I or Type II, depending on the hypothesis to be tested
- d. none of the above

→ d. none of the above

8. In hypothesis testing,  $\beta$  is

- a. the probability of committing a Type II error
- b. the probability of committing a Type I error
- c. the probability of either a Type I or Type II, depending on the hypothesis to be test
- d. none of the above

→ C

9. When testing the following hypotheses at an  $\alpha$  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

- a.  $z > z\alpha$
- b.  $z < z\alpha$
- c.  $z < -z$
- d. none of the above

→ 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
- b. the value of the test statistic
- c. the level of significance
- d. All of the above are needed

→ c. the level of significance

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

- a. level of significance
- b. critical value
- c. decision value
- d. probability value

→ a. level of significance

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

- a. Degrees of Freedom
- b. The t-ratio
- c. Standard Error of the Means
- d. All of the Above

➔ a. Degrees of Freedom

13. What is Anova in SPSS?

➔ ANOVA is an extension of the two group difference of means test (t-test). The t-test is used to compare two group means, but ANOVA allows for comparing three or more group means, which is easier than conducting numerous t-tests.

14. What are the assumptions of Anova?

➔ There are three primary assumptions in ANOVA: The responses for each factor level have a normal population distribution. These distributions have the same variance. The data are independent.

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

➔ What is the difference between a one-way and a two-way ANOVA. The only difference between one-way and two-way ANOVA is the number of independent variables. A one-way ANOVA has one independent variable, while a two-way ANOVA has two.