STATISTICS WORKSHEET-3 ANSWERS

Q1) Option B

Q2) Option C

Q3) Option A

Q4) Option A

Q5) Option B

Q6) Option B

Q7) Option B

Q8) Option D

Q9) Option A

10. What Is Bayes' Theorem?

It is a mathematical formula for calculating conditional probability in probability and statistics. In other words, it's used to figure out how likely an event is based on its proximity to another. Bayes law or Bayes rule are other names for the theorem.

11. What is z-score?

A Z-score is a numerical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. If a Z-score is 0, it indicates that the data point's score is identical to the mean score. It is used to standardize your normal distribution. Using the z-score, you can convert each data point into a value in terms of mean and standard deviation, effectively converting the graph into a scaled-down version.

Z-score = x – mean/ standard deviation

12. What is t-test?

A t-test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another.

13. What is percentile?

It is a comparison score between a particular score and the scores of the rest of a group. It shows the percentage of scores that a particular score has transcended.

For example, if a student scored 65 marks on a test, and are ranked in the 50th percentile, it means that the score 65 is higher than 50% of the scores.

14. What is ANOVA?

ANOVA, Analysis of variance is a statistical method that separates observed variance data into different components to use for additional tests. A one-way ANOVA is used for three or more groups of data, to gain information about the relationship between the dependent and independent variables. If no true variance exists between the groups, the ANOVA's F-ratio should equal close to 1.

15. How can ANOVA help?

ANOVA is very much useful to determine if a survey or experiment results are significant. For example, we are testing groups to see if there's a difference between them and analyze the difference between the means of more than two groups. A group of psychiatric patients is trying three different therapies: counseling, medication, and biofeedback.

A One-Way-ANOVA is used to determine how one factor impacts a response variable. For example, we might want to know if three different studying techniques lead to different mean exam scores. To see if there is a statistically significant difference in mean exam scores, we can conduct a one-way ANOVA.