

### STATISTICS WORKSHEET 3 ANSWERS

**Q1.** b

**Q2.** c

**Q3.** a

**Q4.** a

**Q5.** b

**Q6.** a

**Q7.** b

**Q8.** d

**Q9.** a

**Q10.** In statistics and probability theory, the Bayes theorem (also known as the Bayes rule) is a mathematical formula used to determine the conditional probability of events. Essentially, the Bayes theorem describes the probability of an event based on prior knowledge of the conditions that might be relevant to the event. The theorem is named after English statistician, Thomas Bayes, who discovered the formula in 1763. It is considered the foundation of the special statistical inference approach called the Bayes inference. Besides statistics, the Bayes theorem is also used in various disciplines, with medicine and pharmacology as the most notable examples. In addition, the theorem is commonly employed in different fields of finance. Some of the applications include but are not limited to, modeling the risk of lending money to borrowers or forecasting the probability of the success of an investment.

**Q11.** 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. A Z-score of 1.0 would indicate a value that is one standard deviation from the mean. Z-scores may be positive or negative, with a positive value indicating the score is above the mean and a negative score indicating it is below the mean.

**Q12.** A t-test is used as a hypothesis testing tool, which allows testing of an assumption applicable to a population. A t-test looks at the t-statistic, the t-distribution values, and the degrees of freedom to determine the statistical significance. To conduct a test with three or more means, one must use an analysis of variance.

**Q13.** In statistics, percentiles are used to understand and interpret data. The  $n$ th percentile of a set of data is the value at which  $n$  percent of the data is below it. In everyday life, percentiles are used to understand values such as test scores, health indicators, and other measurements.

**Q14.** ANOVA, is a strong statistical technique that is used to show the difference between two or more means or components through significance tests. It also shows us a way to make multiple comparisons of several populations means.

**Q15.** Analysis of Variance is an essential approach for examining. The different factors that can influence a given arrangement of information. It can be said as an assortment of statistical models that are actually used to examine the differences. Among all the groups implied in the sample. Analysis of variance was created by a notable analyst Ronald Fisher. Anova has been utilized strongly in statistical hypothesis speculation testing for examining the experiment information. ANOVA assumes a significant job in deciding if it is required to dismiss the invalid hypothesis or it needs to acknowledge the substitute speculation. Statistics itself is a complex subject; this is the reason anova in statistics is very quite difficult. We have included all the required information that will help you know about What is the Use of anova in Statistics.