

Statistics Worksheet

1. A
2. A
3. B
4. D
5. C
6. B
7. B
8. A
9. C
10. A normal distribution is a continuous probability distribution that is symmetrical around its mean, most of the observations cluster around the central peak, and the probabilities for values further away from the mean taper off equally in both directions.
11. Missing data means that it's data is not captured for a variable for the observation in question. Missing data reduces the statistical power of the analysis, which can distort the validity of the results.
We can deal with the missing data using techniques like Imputation and Removing data.
I recommend Imputation methods rather than Removing data because the imputation methods can deliver reliable results by finding out the reason why the data is missing. The imputation method I recommend is Mean, Median and Mode.
12. A/B testing is a user experience research methodology. A/B test consist of a randomized experiment that usually involves two variants (A and B). A/B testing is a way to compare multiple versions of a single variable.
13. The mean imputation of missing data is a bad practice because mean imputation does not preserve the relationships among variables. Secondly, mean imputation leads to an underestimate of standard errors.
14. In statistics, linear regression is a linear approach for modelling the relationship between a scalar response and one or more explanatory variables. The case of one explanatory variable is called simple linear regression, for more than one, the process is called multiple linear regression.
15. The various branches of statistics are:
 - i. Econometric: It takes part to resolve economic models and problem.
 - ii. Actuarial: It focuses on studying and analyzing risk in finance and insurance.
 - iii. Psychometrics: It focuses on studying measurement technique and analyzing in the education world and psychology.
 - iv. Physical statistics: It focuses on solving physic science.
 - v. Population statistics: It studies about many things related to society.
 - vi. Official statistics: We learn how to measure some strategic indicator that has a large impact on society.
 - vii. Biostatistics: Used to resolve many statistical problems in the medical world such as vaccine making, medicine quality control and others.
 - viii. Industrial statistics: In this we can study how to resolve an industrial problem such as quality control, queuing theory, optimizing variable etc.
 - ix. Computing statistics: It focuses on the use of information technology in producing more powerful statistics.