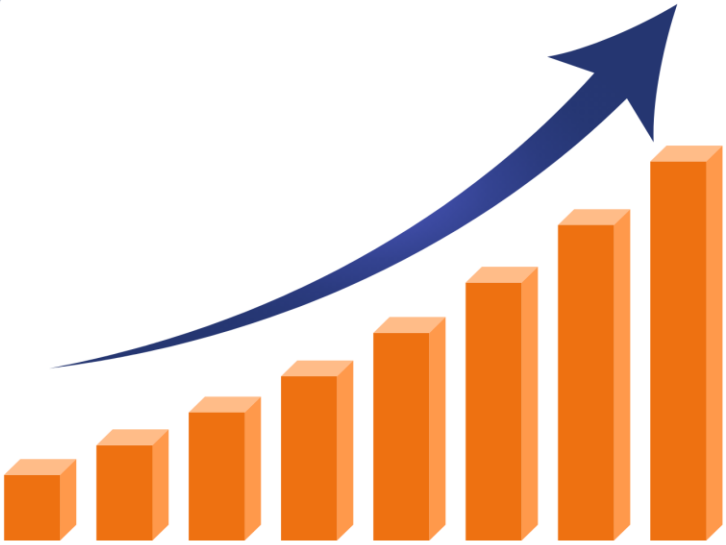
iNeuron



Statistics

21. What is a disadvantage of convenience sampling?

a. It is time-consuming
b. It may introduce bias into the sample
c. It ensures equal representation of all groups
d. It requires a large sample size
Ans. b) It may introduce bias into the sample

22. What is the sampling error?

a. The difference between the sample mean and the population mean
b. The variation within the sample
c. The difference between the sample and the population
d. The likelihood of obtaining a biased sample
Ans. c) The difference between the sample and the population

23. What is the primary goal of quota sampling?

a. To ensure every individual has an equal chance of being selected
b. To create strata based on certain characteristics
c. To meet specific demographic criteria in the sample
d. To sample from individuals who are readily available.
Ans. c) To meet specific demographic criteria in the sample.

24. Which sampling method is most likely to result in a representative sample of the population?

a. Convenience sampling
b. Snowball sampling
c. Simple random sampling
d. Purposive sampling
Ans. c) Simple random sampling

25. What is the advantage of using a larger sample size in sampling?

a. Increased cost
b. Greater precision and accuracy in estimating population parameters
c. Higher risk of bias
d. Decreased variability
Ans. b) Greater precision and accuracy in estimating population parameters.

26. What is the primary purpose of a z-test?

a. Compare two sample means
b. Compare two sample proportions
c. Compare a sample mean to a known population mean
d. Compare a sample standard deviation to a known population standard deviation
Ans. c) Compare a sample mean to a known population mean

27. When is a one-sample z-test appropriate?

a. When comparing two sample means
b. When comparing two independent samples
c. When comparing a sample mean to a known population mean
d. When comparing two sample proportions
Ans. c) When comparing a sample mean to a known population mean

28. In a chi-square test, what type of data is typically analyzed?

a. Continuous
b. Categorical
c. Both continuous and categorical
d. Nominal
Ans. b) Categorical

29. What is the chi-square test used for?

a. Comparing means of multiple groups
b. Testing independence in contingency tables
c. Testing the difference between two proportions
d. Comparing variances of two samples
Ans. b) Testing independence in contingency tables

30. What does ANOVA analyze?

a. Difference between two sample means
b. Difference between more than two sample means
c. Difference between two sample proportions
d. Difference between two sample variances
Ans. b) Difference between more than two sample means

31. When is a one-way ANOVA used?

a. Comparing two independent samples
b. Comparing means of multiple groups
c. Comparing paired samples
d. Comparing variances of two samples
Ans. b) Comparing means of multiple groups

32. In a two-sample z-test for proportions, what is the null hypothesis?

a. The two sample proportions are equal
b. The two sample proportions are not equal
c. The difference between sample proportions is zero
d. The difference between sample proportions is not zero
Ans. a) The two sample proportions are equal

33. What is the critical value in a z-test?

a. The value that separates the rejection and non-rejection regions
b. The mean of the sample
c. The standard deviation of the sample
d. The p-value of the test
Ans. a) The value that separates the rejection and non-rejection regions

34. What is the expected frequency in a chi-square test?

a. The frequency observed in the sample
b. The frequency expected based on a theoretical distribution
c. The sum of observed frequencies
d. The standard deviation of the sample
Ans. b) The frequency expected based on a theoretical distribution

35. In a chi-square test, what is the degrees of freedom for a contingency table with 3 rows and 4 columns?
a. 7
b. 12
c. 2
d. 6
Ans. a) 7

36. What does the F-statistic represent in ANOVA?

a. The ratio of between-group variance to within-group variance
b. The mean of the sample
c. The p-value of the test
d. The sum of squared differences within groups
Ans. a) The ratio of between-group variance to within-group variance

37. In a two-way ANOVA, how many factors are being analyzed?
a. One
b. Two
c. Three
d. Four
Ans: b) Two

38. What type of data is best represented by a bar chart?

a. Continuous
b. Categorical
c. Nominal
d. Ordinal
Ans. b) Categorical

39. In a grouped bar chart, how are the bars arranged?
a. Side by side
b. Stacked
c. Overlapped
d. All the above
Ans. a) Side by side

40. What type of data is suitable for a histogram?
a. Continuous
b. Categorical
c. Nominal
d. Ordinal
Ans. a) Continuous