CONFIDENCE INTERVAL FORMULA

The confidence interval is a mean of the estimate plus and minus the variation in the estimate. Confidence intervals are also significant in statistics. This concept is used for finding the population mean and proportion. It is used in statistics for probability purposes. Confidence intervals measure the quantity of uncertainty in population samples.

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Q1: What is the confidence level typically associated with a 95% confidence interval?

A: 50%
B: 68%
C: 90%
D: 95%

Q2: What happens to the width of a confidence interval if you increase the confidence level (e.g., from 90% to 95%)?

A: The width increases.
B: The width decreases.
C: The width remains the same.
D: It depends on the sample size.

Q3: Which of the following is not a valid confidence level for a confidence interval?

A: 80%
B: 99%
C: 50%
D: 110%

Q4: What is the formula of a confidence interval?

A: $\bar{X} \pm Z(S \div \sqrt{n})$
B: $\bar{X} \pm Z$
C: $\pm Z(S \div \sqrt{n})$
D: None of the above

Q5: How is a confidence interval useful?

A: Making decisions
B: Estimate range value
C: Data Analysis
D: both A and B

Q6: Is there a relationship between confidence level and interval?

A: Yes
B: No

Q7: Confidence is useful in present life?

A: Yes
B: No

Q8: Margin of error formula is:

A: Z * σ / √n
B: Z * σ
C: √n
D: All of the Above

Q9: What is the meaning of σ in a confidence level?

A: Standard deviation
B: Population
C: Sample test
D: None of the above

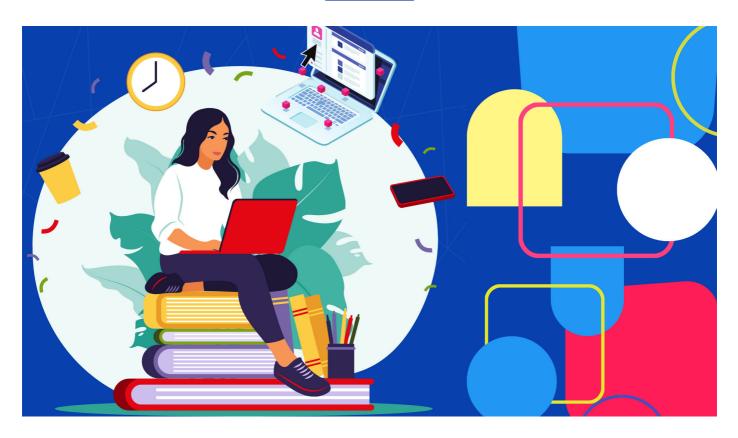
Q10: What is the objective of the confidence interval?

A: Finding the average of the sample population
B: Finding the range value
C: Making decisions
D: All of the above

Answers

Q1: D - 95%

Q2: A - The width increases.

Q3: D - 110%

Q4: A - ‾X ± Z(S ÷ √n)

Q5: D - both A and B

Q6: A - Yes

Q7: A - Yes

Q8: A - Z * σ / √n

Q9: A - Standard deviation

Q10: D - All of the above