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Example MC Questions

MCQ 1: International tourists are randomly selected at a beach in Antalya to ask how many days they spend in Antalya.

- *A*: This method will give reliable results if many tourists are asked.
- *B*: This method will overestimate the time tourists stay in Antalya.
- *C*: This method will underestimate the time tourists stay in Antalya.
- *D*: This method will work only in sunny weather.
- *E*: Reliable information about tourists' length of stay is impossible to obtain.

MCQ 2: A discreet random variable X has a distribution given by $P(X = -1) = 0.4$, $P(X = 0) = 0.2$, $P(X = +1) = 0.4$,

- *A*: $\mathrm{E}(X) = 1$, $\mathrm{var}(X) = 1.3$
- *B*: $\mathrm{E}(X) = 1$, $\mathrm{var}(X) = 0.8$
- *C*: $\mathrm{E}(X) = 0$, $\mathrm{var}(X) = 1.3$
- *D*: $\mathrm{E}(X) = 0$, $\mathrm{var}(X) = 0$
- *E*: $\mathrm{E}(X) = 0$, $\mathrm{var}(X) = 0.8$

MCQ 3: Given are observations $x_1, \ldots, x_{10}$ from a metric variable X.

- *A*: If $s^2 = 0$, all observations are equal.
- *B*: $\mathrm{med}(X) > \bar{x}$.
- *C*: $\mathrm{med}(X) < \bar{x}$.
- *D*: $\mathrm{med}(X) = \bar{x}$.
- *E*: If $\mathrm{med}(X) = \bar{x}$, then $s^2 = 0$.

MCQ 4: An automobile club has four different types of members: A, B, C, and D, depending on the type of membership. For each member, let X indicate his/her membership type.

- *A*: The arithmetic mean of X is meaningful.
- *B*: The mode of X is meaningful.
- *C*: A histogram is appropriate to display the distribution of X.
- *D*: A boxplot is appropriate to display the distribution of X.
- *E*: The variance of X is meaningful.

MCQ 5: In general, which of the following statements is FALSE?

- *A*: The sample mean is more sensitive to extreme values than the median.
- *B*: The sample range (i.e. maximum minus minimum) is more sensitive to extreme values than the median.
- *C*: The sample standard deviation is a measure of spread around the sample mean.
- *D*: The sample standard deviation is a measure of central tendency around the median.
- *E*: If a distribution is symmetric, then the mean will be equal to the median.

MCQ 6: Consider two events A and B. Event A has probability $1/2$, while event B has probability $1/20$. Then:

A: I'd bet on A rather than on B.

B: A is less probable to occur than B in a single trial.

C: In series of 5 independent trials, A will be observed more often than B.

D: At least 20 trials are needed until B will occur.

E: In a single trial, B is an impossible event.

MCQ 7: Descriptive statistics is concerned with ....., while the goal of statistical inference is to ..... with the help of .....

A: generalizing sample data, draw inductive conclusions, probabilities

B: summarizing data, draw inductive conclusions, probabilities

C: describing data, draw deductive conclusions, probabilities

D: summarizing data, draw deductive conclusions, histograms

E: generalizing sample data, draw deductive conclusions, computers

MCQ 8: An insurance company records the following variables for each customer: age, gender, number of damages in the last five years, educational attainment. The scalings of these variables are, respectively:

A: metric, categorical, rank, rank

B: metric, rank, metric, rank

C: metric, categorical, metric, rank

D: metric, categorical, metric, categorical

E: rank, categorical, metric, rank

Solutions: MCQ 1: B; MCQ 2: E; MCQ 3: A; MCQ 4: B; MCQ 5: D; MCQ 6: A; MCQ 7: B; MCQ 8: C.