Communicating findings and limitations

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Rewrite “B was faster” using medians A 16 min, B 12 min. [2 marks]

Name statistic, values and units.

Answer: B had a lower median time by 4 minutes: 12 versus 16.

2. Surveying one sports team estimates all students’ exercise. Give a limitation. [2 marks]

Selection can overestimate cohort exercise.

Answer: Team members may exercise more than non-members.

3. Give an improvement to that sample. [2 marks]

Chance-based wider coverage better matches the population.

Answer: Randomly sample the whole cohort, or relevant strata.

4. Why report missing responses? [2 marks]

Readers need to know how much of the planned sample was measured.

Answer: Non-response can affect representativeness.

5. Tutoring attendance and marks are associated. State justified and unjustified claims. [2 marks]

Prior achievement/motivation may differ.

Answer: Justified: sample association. Unjustified: tutoring alone caused the difference.

6. Name four useful report elements accompanying a graph. [2 marks]

These explain how to interpret the display.

Answer: Question/context; source/sampling; numerical summaries/units; conclusion/limitations.