Statistical questions and the investigation cycle

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Rewrite “Is the canteen popular?” as a clear statistical question. [2 marks]

The population, variable and period are stated.

Answer: For example: “On how many of the last five school days did Year 11 students buy food from the canteen?”

2. Explain why “How tall is the school flagpole?” is not normally statistical. [2 marks]

Repeated measurements could support a different question about measurement error.

Answer: It asks for one fixed height, not a distribution.

3. List four decisions to make before collecting travel times. [2 marks]

These determine whether values answer the question.

Answer: Population; measurement rule and units; sampling method; collection period.

4. A study asks about exercise but records only running. Identify the problem. [2 marks]

Broaden collection or narrow the question to running.

Answer: The measured variable does not cover all exercise.

5. In a pilot, some students include homework in screen time and others do not. What next? [2 marks]

Consistent rules make responses comparable.

Answer: Clarify the definition and pilot it again before main collection.

6. What should accompany a reported median travel time of 16 minutes? [2 marks]

For example, report the actual calculated IQR; do not invent it.

Answer: A suitable spread statement, sample/context and limitations.