7.14 Data Handling: Descriptive Statistics, Graphs and Levels of Measurement: 10-minute Pack

AQA 7182 · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 A psychologist records whether 30 participants completed a cognitive task correctly: 18 answered correctly and 12 answered incorrectly. State the level of measurement for this variable and explain briefly why it matters when choosing a descriptive statistic.

(Total for Question 1 is 2 marks)

2 A researcher tabulates category counts for participants' preferred therapy type: CBT 14, Systematic desensitisation 6, Drug therapy 10. Construct a simple frequency table and calculate the percentage of participants who preferred CBT to 1 decimal place.

(Total for Question 2 is 4 marks)

3 State which measure of central tendency is most appropriate for ordinal data from a Likert-scale questionnaire, and give one brief reason why.

(Total for Question 3 is 2 marks)

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Mark scheme · 7.14 Data Handling: Descriptive Statistics, Graphs and Levels of Measurement: 10-minute Pack

Question 1

level of measurement: nominal (two categories: correct/incorrect) cao **B1**

explanation: nominal data cannot have a mean or standard deviation calculated; appropriate statistics are mode or percentages/proportions oe **B1**

Answer: Nominal. It matters because you cannot compute a mean or standard deviation for nominal data; use mode, counts or percentages instead.

Question 2

constructs a frequency table with three categories and counts: CBT 14, Systematic desensitisation 6, Drug therapy 10, and total = 30 oe **M1**

calculates percentage: (14 / 30) x 100 oe **M1**

percentage = 46.666...% => 46.7% to 1 dp cao **A1**

presents the table or states the total n = 30 cao **B1**

Answer: Frequency table: CBT 14, Systematic desensitisation 6, Drug therapy 10, Total 30. Percentage preferring CBT = (14/30) x 100 = 46.7% (1 dp).

Question 3

median cao **B1**

reason: median does not assume equal intervals between ranks and is not distorted by extreme values, so it is appropriate for ordinal Likert data oe **B1**

Answer: Median. It is appropriate because it does not assume equal spacing between ranks and is robust to outliers, unlike the mean.

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