Worked answers | Statistics

Choosing a display for the data

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Choose a display for numbers of students travelling by bus, car, bicycle or walking. Explain. [2 marks]

Travel methods are categories.

Count responses and use separate bars with a labelled frequency axis.

Answer: A bar chart.

2. Choose a display for 14 hand-span measurements while retaining exact individual values. [2 marks]

The sample is small and numerical.

These displays retain repeated values and individual observations.

Answer: A dot plot or stem-and-leaf plot.

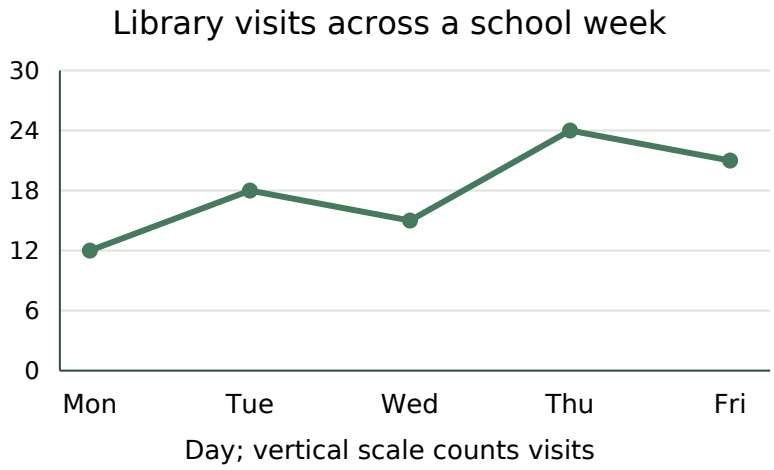
3. Why might relative-frequency bars help compare samples of 20 and 100? [2 marks]

Divide counts by the sample total.

Raw counts may mainly show the sample-size difference.

Answer: They compare proportions on a common basis.

4. Use the graph. Which day has the most visits, and how much do visits fall the next day? [2 marks]



Thursday has 24 visits; Friday has 21.

$24 - 21 = 3$.

Answer: Thursday; a fall of 3 visits.

5. A display groups ages into ten-year intervals. What detail is lost? [2 marks]

Different ages share the same group.

Grouping reveals broad shape but hides fine detail.

Answer: Exact ages and variation within each interval.

6. A report needs exact enrolment counts. Should it provide only a graph? Explain. [2 marks]

A table allows direct lookup.

A graph alone may require estimating from a scale.

Answer: Include a table of exact counts, possibly alongside a graph.