Worked answers | Statistics

Suitable displays

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. Which display is usually clearer for comparing category counts at a glance: a long unsorted response list or a column graph? [1 mark]

Column heights make category sizes easier to compare.

Answer: A column graph.

2. Choose a whole-symbol key for counts 6, 9 and 12. [1 mark]

This needs 2, 3 and 4 symbols. A key of 1 also works.

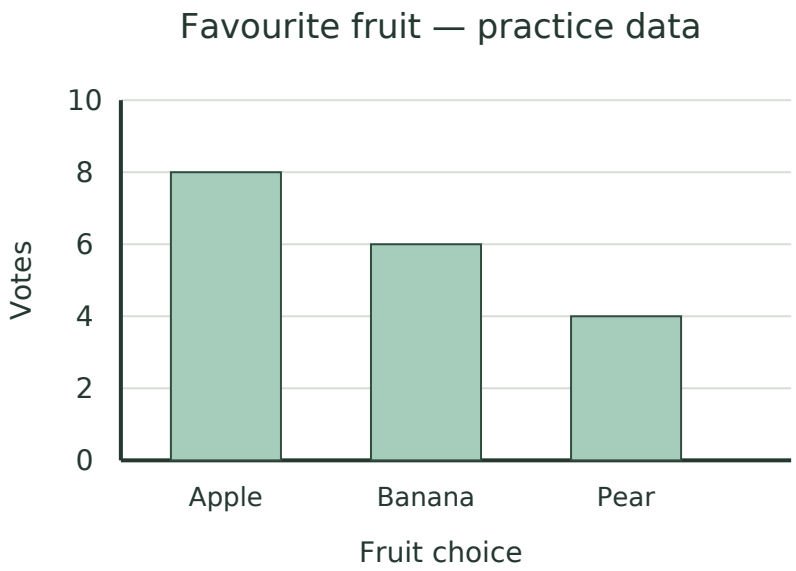
Answer: One symbol represents 3 responses.

3. A vertical axis has equally spaced labels 0, 2, 5, 8. Explain the problem. [2 marks]

Use a constant step, such as 0, 2, 4, 6, 8.

Answer: The numerical increases are not equal even though the spaces are equal.

4. Draw a column graph for the supplied fruit table. Include a title, categories and a scale. [3 marks]



Practice survey: favourite fruit

Fruit	Votes
Apple	8
Banana	6
Pear	4

A scale of 2 is convenient; other accurate regular scales are valid.

Answer: Columns should show Apple 8, Banana 6 and Pear 4, starting from zero with an even scale.

5. A pictograph uses a key of 5 for counts 2, 3 and 4. Suggest a clearer choice. [2 marks]

The key of 5 needs awkward fractions of symbols.

Answer: Use a key of 1 or a column graph.

6. Why should all columns in a simple column graph have equal width? [2 marks]

Unequal widths can make categories appear more or less important.

Answer: So their heights, rather than different widths, communicate the counts fairly.