Statistics - topic test

12 questions | 22 marks | 30 minutes

Begin with familiar ideas, then explain and apply your understanding. Show your working.

Equivalent correct methods earn the corresponding marks.

1. A key says one symbol represents 2 books. How many books do 3 symbols show? [1 mark]

3 × 2 = 6.

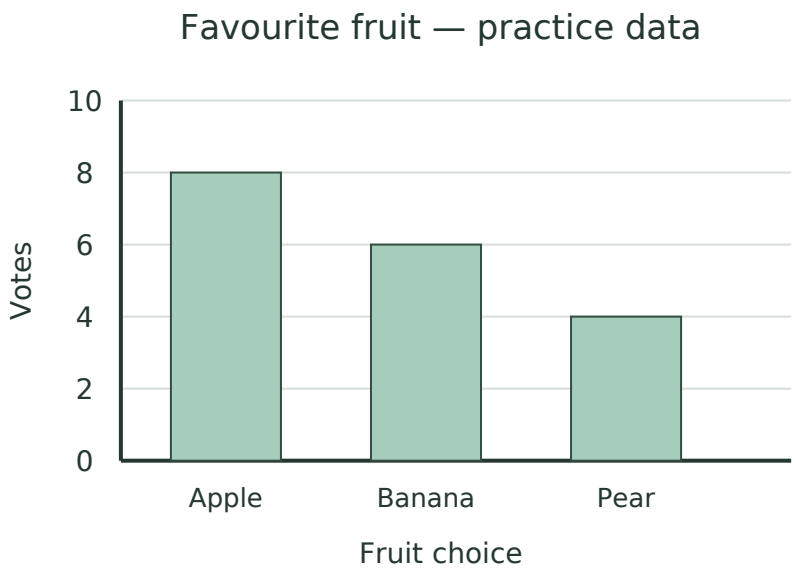
Answer: 6 books.

2. A key says one symbol represents 4 votes. How many symbols show 12 votes? [1 mark]

12 divided by 4 is 3.

Answer: 3 symbols.

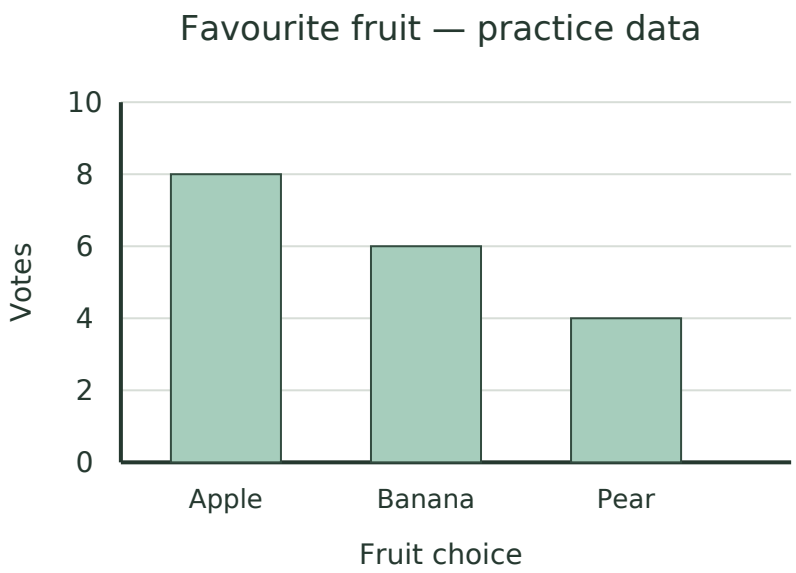
3. Read the Pear count from the supplied graph. [1 mark]



The column top matches 4 on the vertical scale.

Answer: 4 votes.

4. How many more votes did Apple receive than Banana in the supplied graph? [2 marks]



8 − 6 = 2.

Answer: 2 votes.

5. Record these responses as frequencies: red, blue, red, green, blue, red. [2 marks]

Count each response once.

Answer: Red 3; blue 2; green 1.

6. Fifteen people each give one response, but a table totals 16. What should the collector do? [2 marks]

Do not invent a change without checking.

Answer: Check the original records for a duplicate or recording error.

7. Use the supplied reading table to find the total children. [2 marks]

Practice reading survey

Books read	Number of children
0	2
1	4
2	6
3	3

2 + 4 + 6 + 3 = 15.

Answer: 15 children.

8. Which books-read value is most common in the supplied table? [1 mark]

Practice reading survey

Books read	Number of children
0	2
1	4
2	6
3	3

Its frequency 6 is larger than 2, 4 and 3.

Answer: 2 books.

9. Draw a column graph from the supplied reading table. Label it clearly. [3 marks]



Practice reading survey

Books read	Number of children
0	2
1	4
2	6
3	3

A scale of 1 or 2 is suitable if all values are represented accurately.

Answer: Four columns at 0, 1, 2, 3 books with heights 2, 4, 6, 3 children; clear title and even scale from 0.

10. Why is “Everyone likes football best” not justified by a survey of only the football team? [2 marks]

The sampled group is narrower than the claim.

Answer: The team does not represent everyone and may favour football.

11. Compare lists 1, 2, 2, 2, 3 and 0, 1, 2, 3, 4. Which is more concentrated near 2? [2 marks]

Three of its five values are 2, and it extends only from 1 to 3.

Answer: The first list.

12. A class asks 16 children to choose one favourite game. The counts are Chasey 7, Skipping 5 and Handball 4. [3 marks]

(a) Write a conclusion supported by these counts. [2 marks]

Compare 7, 5 and 4.

7 is the largest count, so name Chasey and the surveyed group.

Answer: Chasey was the most popular of the three games among these 16 respondents.

(b) Give one limit on what the conclusion can tell us. [1 mark]

A class survey does not establish the preferences of every child.

Answer: It only describes these respondents and the offered game choices.