Statistics topic test

12 questions | 19 marks | 30 minutes

Data types, mode, displays, line graphs and fair conclusions.

Equivalent correct methods earn the corresponding marks.

1. Is favourite fruit category data or number data? [1 mark]

The answers name fruit choices.

Answer: Category data.

2. Is the number of books in a bag category data or number data? [1 mark]

It counts the books.

Answer: Number data.

3. Find the mode of 2, 4, 4, 7, 4, 8. [1 mark]

4 occurs three times, more than any other value.

Answer: 4.

4. Find every mode of 1, 3, 1, 5, 3. [1 mark]

Each occurs twice; 5 occurs once.

Answer: 1 and 3.

5. How many votes are in the fruit table? [1 mark]

One vote from each of 20 fictional students

Fruit	Votes
Apples	8
Bananas	6
Oranges	4
Pears	2

$8 + 6 + 4 + 2 = 20.$

Answer: 20 votes.

6. How many more pupils chose apples than pears? [1 mark]

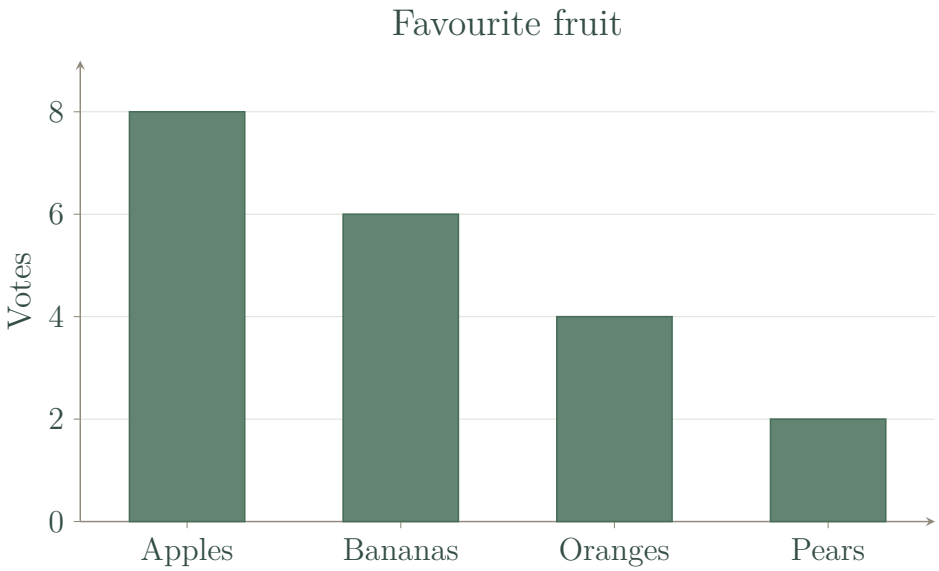
One vote from each of 20 fictional students

Fruit	Votes
Apples	8
Bananas	6
Oranges	4
Pears	2

$8 - 2 = 6.$

Answer: 6 pupils.

7. Draw a column graph for the fruit table. Include a title, labels and a fair scale.
[4 marks]



One vote from each of 20 fictional students

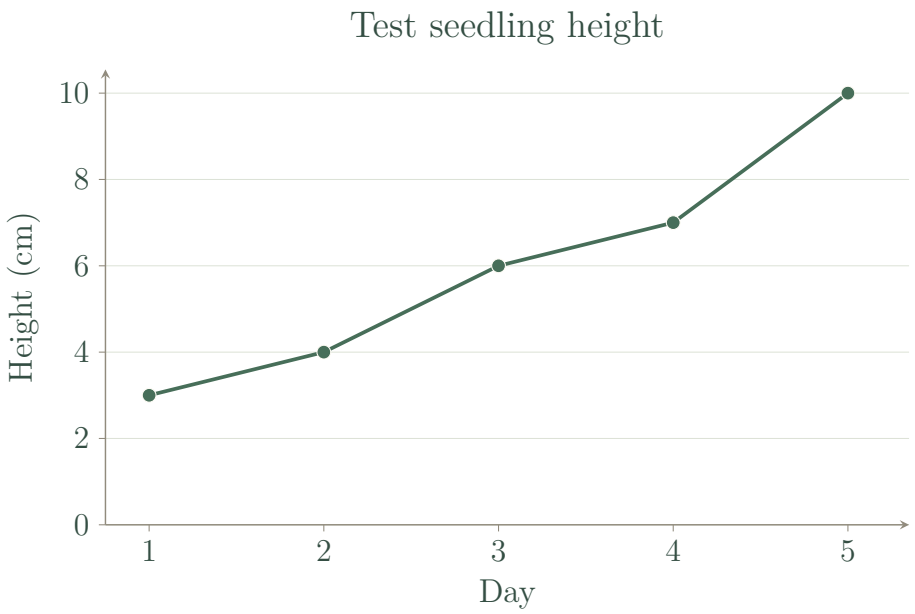
Fruit	Votes
Apples	8
Bananas	6
Oranges	4
Pears	2

Use equally wide columns with equal gaps.

Plot each supplied count, and label both axes.

Answer: A valid graph has four columns of heights 8, 6, 4, 2; categories Apples, Bananas, Oranges, Pears; a Votes axis starting at zero with equal steps; and title Favourite fruit.

8. Read the seedling's height on day 4. [1 mark]



The day 4 point is at 7 on the centimetre scale.

Answer: 7 cm.

9. How much did the seedling grow from day 1 to day 5? [1 mark]

Test seedling measured at the same time each day

Day	Height (cm)
1	3
2	4
3	6
4	7
5	10

$10 - 3 = 7$ cm.

Answer: 7 cm.

10. Equal grid intervals on a graph are labelled 0, 5, 10, 20. Explain the problem. [2 marks]

Equal axis distances must represent equal changes.

Answer: The numerical steps are not equal: 5, 5, then 10.

11. Pencil lengths are recorded as 12, 14, 130, 15 centimetres. What should happen before graphing? [2 marks]

130 is unusual compared with the others, but an unusual value is not automatically an error.

Answer: Check the entry and unit for 130, and remeasure if possible. Do not guess a replacement.

12. Only ten pupils from one class answer a school-lunch survey. State one limit and one way to improve the plan. [3 marks]

Identify the group that answered.

Broaden participation before making a school-wide claim.

Answer: The answers describe those ten pupils, not necessarily the school. Ask a wider, fairly chosen group using the same neutral question.