Statistics - Practice test 1

Name: _____ Date: _____

16 questions | 48 marks | 55 minutes

A gradual review of sampling, displays, summaries and evidence-based conclusions.

A scientific calculator may be used.

1. Classify each variable as categorical or numerical: favourite subject; journey time in minutes. [2 marks]

2. A school surveys 200 of its 1,200 students. State the population and sample. [2 marks]

3. Find the mean and mode of 4, 6, 6, 8, 11. [3 marks]

(a) Calculate the mean. [2 marks]

(b) State the mode. [1 mark]

4. Find the median and range of 16, 18, 20, 20, 22, 24. [3 marks]

(a) Find the median. [2 marks]

(b) Find the range. [1 mark]

5. Read the stem-and-leaf plot. Find sample size and largest value. [2 marks]

Key: 3 | 1 means 31 points.

Stem	Leaves
3	1 2 5 6
4	0 0 3

6. A fair sample finds 18 supporters out of 30. Estimate the count among 600 people. [3 marks]

7. A year group has 180 students in A and 120 in B. Allocate a proportional sample of 50. [3 marks]

8. Calculate the mean from the frequency table. [3 marks]

Value	Frequency
1	2
2	3
3	4
4	1

9. Draw a dot plot for 0,1,1,2,2,2,4. State the mode. [3 marks]

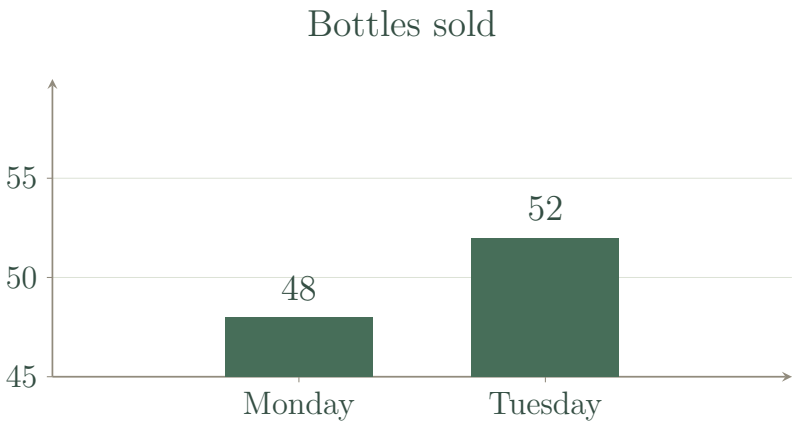


10. Compare median and range: A: 20,22,24,26,28; B: 18,24,24,24,30. [4 marks]

(a) Find each median. [2 marks]

(b) Find each range and compare spread. [2 marks]

11. The graph shows 48 and 52 bottles sold. A caption says sales more than doubled. Assess it. [3 marks]



Vertical axis starts at 45, not zero.

12. Only friends at the gym are surveyed to estimate school-wide interest in exercise. Explain a selection problem and an improvement. [3 marks]

13. Choose a display for changes in daily library visits across a school week. Explain. [2 marks]

14. For 2,3,3,4,18 find mean and median. Explain their difference. [4 marks]

(a) Find the mean and median. [3 marks]

(b) Explain their difference. [1 mark]

15. Fair samples give 52%,59%,55%. Find the range in percentage points and explain why results may differ. [3 marks]

16. Plan a small investigation comparing Year 9 reading time on weekdays and weekends. State a precise question, a sample method, a display and one limitation. [5 marks]