



Attempt questions first; check the separate key afterward. Show all working. Draw accurate figures where required.

A. Very short answers - 1 mark each

1. Find the mean of 4, 6, 8, 10.
2. Find the median of 3, 7, 9, 10, 15.
3. Find the mode of 2, 3, 3, 4, 5, 3.
4. Find the range of 12, 18, 9, 21, 15.
5. Draw a dot plot for 1, 1, 2, 3, 3, 3, 4.
6. State its mode.
7. Temperatures on Mon-Fri are 28, 30, 29, 32, 31°C. Draw a line graph.
8. Find the mean temperature.

B. Short answers / practice - 2 marks each

9. A player's scores are 10, 20, 30, 40. What score in the next game gives mean 30?
10. Find the median of all five scores.
11. Find the median of 2, 4, 8, 10.
12. Must the median be an observed data value?
13. Explain when a line graph is more suitable than a bar graph.
14. Why should time points be ordered on a line graph?
15. Heights are 140, 142, 145, 145, 148 cm. Find mean.
16. Find median and mode.
17. A data set has mean 8 for 5 values. Find its total.
18. If a sixth value 14 is added, find new mean.
19. Explain how an outlier affects mean and median differently.
20. Compare mean and median of 2, 3, 4, 5, 36.

C. Application / reasoning - 3 marks each

21. Bus arrivals over 5 days are 5, 7, 6, 8, 4 minutes late. Find mean lateness.

22. Find the largest day-to-day increase.
 23. Make a frequency table for 2, 2, 3, 4, 4, 4, 5, 5.
 24. Find its mean.
 25. Two groups have equal size and means 12 and 18. Find combined mean.
 26. Does averaging group means always work for unequal sizes?
 27. Find mean and median of 5, 5, 8, 10, 12.
 28. The mean of four numbers is 15. Three are 12, 14, 19. Find the fourth.
 29. Rainfall over four days is 5, 0, 15, 20 mm. Draw a line graph and find total.
 30. Add 4 to every value of a dataset. How do mean and range change?
 31. A data set has two equally frequent most common values. Can it have two modes? Explain.
- ### D. Extended practice - 5 marks per pair
32. Explain how truncating a graph's vertical axis can exaggerate a change.
 33. Draw the same data 90, 95, 100 using two different vertical scales.
 34. Survey ten classmates about daily reading time; organise a dot plot.
 35. For your data, calculate mean, median and range and interpret them.

ANSWER KEY - Numerical / closed questions

- 1) 7. 2) 9. 3) 3. 4) 12. 6) 3. 8) 30°C. 9) 50.
10) 30. 11) 6. 12) No. 15) 144 cm. 16) 145 cm;
145 cm. 17) 40. 18) 9. 20) Mean 10; median 4.
21) 6 minutes. 22) 2 minutes. 23)
Frequencies: 2→2, 3→1, 4→3, 5→2. 24) $29/8=3.625$.
25) 15. 26) No. 27) Both 8. 28) 15. 29) 40
mm. 30) Mean rises by 4; range unchanged. 31)
Yes.