Mean/median/mode

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. Find mean, median and mode for 4,5,5,6,10. [2 marks]

Sum 30 over 5 gives 6; the middle value is 5 and 5 is most frequent.

Answer: Mean 6; median 5; mode 5.

2. The mean of 6 values is 8. Find their total. [2 marks]

$\text{Total} = \text{mean} \times \text{number} = 8 \times 6 = 48.$

Answer: 48.

3. Four scores are $3, 7, 8, x$ and their mean is 6. Find x. [2 marks]

Total must be 24; known total 18, so $x = 6$.

Answer: 6.

4. Find the median and mode of 1,2,2,5,5,9. [2 marks]

The middle pair is 2,5.

Both 2 and 5 occur twice.

Answer: Median 3.5; modes 2 and 5.

5. A set has mean 12. Adding a new observation of 12 changes what? Explain the mean. [3 marks]

The total increases by 12 at the same time the count increases by 1.

If old total $12n$, new mean $\frac{12n+12}{n+1} = 12$.

Answer: The mean stays 12.

6. A small business has salaries 40,42,43,45 and 180 thousand dollars. Calculate mean and median and recommend one summary of a typical worker's pay. [3 marks]

Sum 350 divided by 5 is 70.

The middle value is 43; the 180 salary pulls the mean above most salaries.

Answer: Mean 70; median 43 thousand dollars. Median is more typical of this group.