

Mean of Grouped Data

Chapter 13: Statistics · Topic 1

Key Concept

The assumed mean method selects one class's midpoint as a reference point (assumed mean, 'A'), calculates deviations ($d = x - A$) from this reference for each class, then adjusts the final mean using these deviations — reducing the size of numbers involved in calculations. The step-deviation method further simplifies this by dividing each deviation by the common class width (h), useful when class intervals are all equal in width, making manual calculations considerably faster and less error-prone for larger data sets.

Quick Revision Notes

- Direct method: $\text{Mean} = \frac{\sum(f \cdot x)}{\sum f}$, using class midpoints (x) and frequencies (f).
- Assumed mean method uses deviations from a reference midpoint to simplify calculation.
- Step-deviation method further divides deviations by the common class width (h).
- These methods make manual mean calculations faster for larger, grouped data sets.

Practice Questions

- 1 Explain the step-deviation method for finding the mean of grouped data.
- 2 Find the mean of grouped data given frequencies 5,8,12,6 for classes with midpoints 10,20,30,40.
- 3 Compare the direct method and assumed mean method for calculating grouped mean.