

CLASS 11

MATHS

EXTRA QUESTIONS

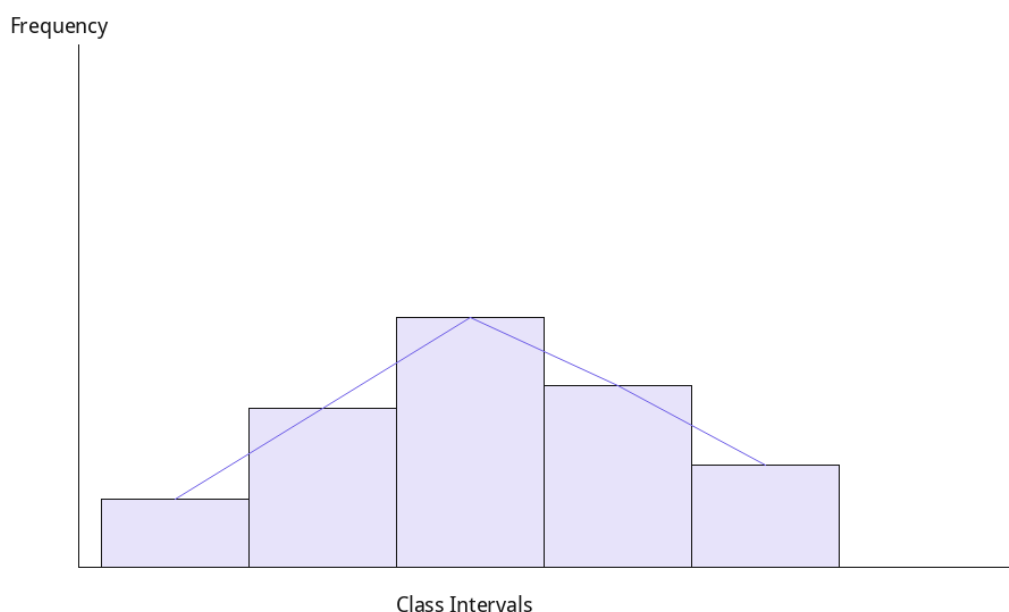
Class 11 Maths Chapter 13 Statistics – Extra Questions with Answers

Extra practice questions for Class 11 Maths Chapter 13 (Statistics), beyond the textbook. These Class 11 Maths Chapter 13 important questions are handy for last-minute exam practice.

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- Very Short Answer Questions (1 mark)
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Extra practice questions for Class 11 Maths Chapter 13 (Statistics), beyond the textbook. These Class 11 Maths Chapter 13 important questions are handy for last-minute exam practice.



A histogram (bars) with its frequency polygon (joining line) -- used to visualise grouped frequency data.

Reference figure — histogram of grouped data

Very Short Answer Questions (1 mark)

Q1. Find the range of the data: 3, 7, 2, 9, 5.

Ans: $9 - 2 = 7$.

Q2. What is the relationship between variance and standard deviation?

Ans: Standard deviation = $\sqrt{\text{variance}}$.

Q3. Can standard deviation be negative?

Ans: No, it is always ≥ 0 (it's a square root of a sum of squares).

Q4. What does a standard deviation of 0 indicate?

Ans: All data values are identical (equal to the mean).

Q5. What measure uses absolute differences from the mean?

Ans: Mean deviation.

Short Answer Questions (2–3 marks)

Q6. Find the mean and range of the data set: 4, 8, 6, 10, 2.

Ans: Mean = $(4+8+6+10+2)/5 = 30/5 = 6$. Range = $10 - 2 = 8$.

Q7. Two data sets have the same mean, but Set A has standard deviation 2 and Set B has standard deviation 8. Which set has more consistent (less spread out) data, and why?

Ans: Set A has more consistent data, since a smaller standard deviation (2, compared to 8) indicates the data values are, on average, closer to the mean, meaning less variability.

Q8. Find the variance of the data set 2, 4, 6 (mean = 4), showing your working.

Ans: Deviations from mean: $(2-4)=-2$, $(4-4)=0$, $(6-4)=2$. Squared: 4, 0, 4. Variance = $(4+0+4)/3 = 8/3 \approx 2.67$.

Higher-Order Thinking / Application Questions

Q9. Two cricket players have the same batting average (mean) of 40 runs over 5 matches, but Player A's standard deviation is 5, while Player B's is 20. Explain what this tells a team selector about each player's reliability, beyond just their average.

Ans: Although both players average 40 runs, Player A's low standard deviation (5) indicates consistent scoring close to 40 in most matches, making them a reliable, predictable performer. Player B's high standard deviation (20) indicates highly variable scores — possibly some very high and some very low scores — making them less predictable, even though their average performance is the same. A selector wanting consistency would prefer Player A, despite equal averages.

Q10. Explain why variance uses squared deviations rather than simply summing the raw (signed) deviations from the mean.

Ans: If raw (signed) deviations were summed directly, the positive and negative deviations would cancel each other out, always summing to zero (by the definition of the mean) — providing no useful information about spread. Squaring the deviations makes all values positive before summing, so that both above-mean and below-mean spread contributes meaningfully to the total measure of dispersion, rather than cancelling out.

Class 11 Maths Chapter 13 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 11 Maths Chapter 13 Solutions](#) and [Class 11 Maths Chapter 13 Revision Notes](#).

See also: [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#) | [Chapter 8](#) | [Chapter 9](#) | [Chapter 10](#) | [Chapter 11](#) | [Chapter 12](#) | [Chapter 13](#)

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