Mathematics

Practice Test Paper 3

(Chapter 13: Statistics)

Class X | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Round non-terminating answers to two decimal places. Use of calculators is not allowed.

SECTION A

(5 questions × 1 mark = 5 marks)

1. For the modal class in the table, the preceding frequency f_0 is:

Class interval	0–10	10–20	20–30	30–40	40–50
Frequency	5	8	14	11	2

(A) 14 (B) 11
(C) 5 (D) 8

2. A class has midpoint 32 and width 8. Its lower limit is:

(A) 24 (B) 28
(C) 32 (D) 36

3. Which measure is usually preferred for a typical income when a few incomes are extremely high?

(A) Median (B) Range
(C) Class width (D) Mean

4. When an assumed mean a is changed, the correctly calculated mean of the data:

(A) Increases (B) Decreases
(C) Remains unchanged (D) Becomes zero

5. The total number of observations in the table is:

Class interval	10–20	20–30	30–40	40–50
Frequency	6	10	9	5

(A) 25 (B) 30
(C) 35 (D) 40

SECTION B

(4 questions × 2 marks = 8 marks)

6. All observations lie between 0 and 40. Convert the more-than-type table into ordinary frequencies.

Class interval	Cumulative frequency
At least 0	40
At least 10	33
At least 20	22
At least 30	8
At least 40	0

7. A student uses the lower limits instead of class marks in a distribution with class width 10. By how much is the resulting mean too small? Explain.

8. Estimate the mode of this grouped data.

Class interval	5–10	10–15	15–20	20–25
Frequency	4	9	6	1

9. There are 32 observations in the table. Find q and identify the modal class.

Class	0–5	5–10	10–15	15–20
Frequency	4	6	q	7

SECTION C

(3 questions × 3 marks = 9 marks)

10. Find the mean number of heart beats per minute for these 30 women using the step-deviation method.

Heartbeats/min	Frequency
65–68	2
68–71	4
71–74	3
74–77	8
77–80	7
80–83	4
83–86	2

11. The observed lifetimes of 225 components are listed. Estimate the modal lifetime.

Lifetime (h)	0–20	20–40	40–60	60–80	80–100	100–120
Frequency	10	35	52	61	38	29

12. Lengths are recorded to the nearest centimetre. Convert the inclusive classes to continuous classes and find the median length.

Length (cm)	20–29	30–39	40–49	50–59	60–69
Frequency	3	7	14	10	6

SECTION D

(Application Based Question - 3 marks)

13. A nursery grouped the heights of its seedlings. Use the grouped data to answer the following.

Height (cm)	10–15	15–20	20–25	25–30
Frequency	5	9	10	6

(i) Find the total frequency.

(ii) Find the number in the highest class.

(iii) Estimate the mode.