Mathematics

Practice Test Paper 8

(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. The table gives cumulative counts. How many observations are below 40?

Class interval	Cumulative frequency
Less than 20	6
Less than 30	15
Less than 40	31
Less than 50	40

(A) 40 (B) 15
(C) 24 (D) 31

2. For a = 30, h = 10 and u = −2, the class mark x is:

(A) 28 (B) 50
(C) 10 (D) 20

3. A grouped mode is generally an estimate of:

(A) The most frequent value
(B) The class width
(C) The number of observations
(D) The total of all values

4. The class boundaries for the inclusive class 15–19, measured to the nearest unit, are:

(A) 15–20 (B) 14.5–19.5
(C) 14–19 (D) 15.5–20.5

5. Which class contains the median of this distribution?

Class interval	0–5	5–10	10–15	15–20	20–25
Frequency	2	6	13	6	3

(A) 10–15 (B) 15–20

(C) 0–5 (D) 5–10

SECTION B

(4 questions × 2 marks = 8 marks)

6. Using the empirical relation, estimate the median when the mean is 45 and the mode is 39. State whether this is necessarily exact.

7. Calculate the median length of the items.

Length (cm)	100–110	110–120	120–130	130–140
Frequency	4	10	12	4

8. The table represents 60 households. Find q and the total frequency below 300.

Usage (units)	0–100	100–200	200–300	300–400
Households	11	17	q	12

9. A student reports the mean of this distribution as 15 by simply averaging the three class marks. Calculate the correct weighted mean.

Class interval	0–10	10–20	20–30
Frequency	2	3	5

SECTION C

(3 questions × 3 marks = 9 marks)

10. The boxes contain the stated inclusive ranges of mango counts. Find the mean number of mangoes per box.

Mangoes	50–52	53–55	56–58	59–61	62–64
Frequency	15	110	135	115	25

11. Find the median daily screen time from the grouped observations.

Time (min)	0–30	30–60	60–90	90–120	120–150
Frequency	6	12	20	9	3

12. The masses are measured to the nearest gram. Use continuous boundaries to estimate the modal mass.

Mass (g)	100–109	110–119	120–129	130–139	140–149
Frequency	5	12	19	11	3

SECTION D

(Application Based Question - 3 marks)

13. A workshop recorded the lifetimes of batteries. Use the grouped data to answer the following.

Lifetime (h)	0–5	5–10	10–15	15–20
Frequency	6	10	12	2

(i) Find the cumulative frequency below 10.

(ii) Identify the median class.

(iii) State the class mark of the median class.