MATHS WITHOUT GUESSWORK · BOARD BOOSTER

Statistics

LOCK THE SURE MARKS.
STRETCH FOR THE TOP.
PRACTISE THE BOARD WAY.

A board-exam practice companion for **CBSE Class 10 Mathematics**
Syllabus session 2026–27 · Standard (041)

🛡️ Secure Track | 🚀 Stretch Track | ~88 questions + 3 mini-mocks

Three measures — fill the table, read the answer

Mean	Median	Mode
direct & assumed-mean	from the cf table	the modal-class formula

Original questions and solutions. Answers kept separate. Not a substitute for the NCERT textbook or your teacher.

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Statistics in the board paper

Know exactly how many marks are really at stake here — so you spend your effort where the paper pays.

◆ UNDERSTAND THE OFFICIAL NUMBER This chapter sits inside **Unit VII — Statistics & Probability, worth 11 marks**, shared with Probability. Statistics is a **reliable 5–6 marks** — almost always a **5-mark table question** (find the mean, median or mode of a grouped distribution) plus a 1–2 mark formula or empirical-relation question. CBSE publishes weightage per unit, not per chapter.

Where those marks usually fall (PYQ trend — based on past papers, not official)

Form it takes	Typical marks	What it tests
1–2 MCQ / Assertion-Reason	1–2	A formula, the modal/median class, the empirical relation
A VSA or SA	2–3	Mean by direct method; median or mode of a small table
A 5-mark LA	5	Mean/median/mode of one distribution; a missing frequency
A case study	4	Marks, heights, wages, expenditure — a real frequency table

★ SPOT THE CLUE WHAT'S IN THE 2026–27 SCOPE In scope: **mean** (direct & assumed-mean), **median** (cumulative-frequency table + formula), **mode**, and **Mode = 3 Median − 2 Mean**. **Out of scope (deleted):** the **step-deviation method** and the **ogive (cumulative-frequency graph)**. If a question asks you to *draw* a graph or use $u_i = (x_i - a)/h$, it is not on the 2026–27 paper.

Q6 Which method of finding the mean is NOT in the 2026–27 syllabus? A. direct B. assumed-mean C. step-deviation D. all are in it

1 GUIDED ★

Q7 In the mode formula, f_1 is the frequency of: A. the class before the modal class B. the modal class C. the class after D. the median class

1 PART-GUIDED ★

Q8 The median of grouped data is found using the ___ table: A. frequency only B. cumulative frequency C. class-mark D. relative frequency

1 GUIDED ★

Q9 The class size of the intervals 10–25, 25–40, 40–55 is: A. 10 B. 15 C. 25 D. 5

1 PART-GUIDED

Q10 For a distribution with $\Sigma f = 50$, the value of $n/2$ used to locate the median is: A. 50 B. 25 C. 100 D. 12.5

1 GUIDED ★

Q11 If mean = 30 and median = 28, then the mode is: A. 24 B. 26 C. 32 D. 34

1 PART-GUIDED ★

Q12 The cumulative frequency of a class is: A. its own frequency B. the sum of all frequencies up to and including it C. its class mark D. Σf

1 GUIDED ★

Q13 In the mode formula, h is: A. the highest frequency B. the class width C. the modal class D. the cumulative frequency

1 GUIDED

Q14 For classes 0–10, 10–20, 20–30 with frequencies 3, 5, 2, the mean is: A. 14 B. 15 C. 13 D. 10

1 PART-GUIDED ★

Q15 The median class is the class where the cumulative frequency first reaches or exceeds: A. n B. n/2 C. 2n D. f

1 PART-GUIDED ★

Q16 If mode = 25 and mean = 28, then the median is: A. 26 B. 27 C. 28 D. 29

1 INDEPENDENT ★

Q17 The sum of all frequencies Σf in a distribution equals: A. the number of classes B. the total number of observations C. the mean D. the class width

1 GUIDED

Q18 Which measure of central tendency is most affected by extreme values? A. median B. mode C. mean D. none

1 INDEPENDENT ★

Q19 For classes 0–10, ..., 40–50 with frequencies 5, 8, 15, 16, 6, the modal class is: A. 20–30 B. 30–40 C. 40–50 D. 0–10

1 PART-GUIDED ★

Q20 The class mark of the interval 145–150 is: A. 145 B. 147.5 C. 150 D. 5

1 GUIDED

Q21 If Σf = 40 and Σf·x = 940, the mean is: A. 23.5 B. 24 C. 25 D. 23

1 PART-GUIDED ★

Very Short Answer (2-mark) set

16 two-mark questions. Build the small table, apply the formula, give the value. Worked solutions in the Answer Key.

Q1 Find the class mark of the interval 25–45.

2 GUIDED ★

Q2 Find the mean of: classes 0–10, 10–20, 20–30 with frequencies 4, 6, 10.

2 PART-GUIDED ★

Q3 The frequencies of classes 0–10, ..., 40–50 are 5, 8, 15, 16, 6. Name the modal class and its frequency.

2 PART-GUIDED ★

Q4 State the empirical relationship between mean, median and mode.

2 GUIDED

Q5 If mode = 24 and mean = 30, find the median.

2 PART-GUIDED ★

Q6 For a distribution with Σf = 60, find n/2 (used to locate the median class).

2 GUIDED

Q7 Find the mean of: classes 0–20, 20–40, 40–60 with frequencies 3, 5, 2.

2 PART-GUIDED ★

Q8 Classes 0–10, ..., 40–50 have frequencies 6, 9, 15, 7, 3. Build the cumulative frequency and name the median class.

2 INDEPENDENT ★

Case studies (4-mark)

8 source-based cases, each 1 + 1 + 2 marks. Build the table from the given data first. Solutions in the Answer Key.

Case 1 — Class test marks

4 marks

Marks of 50 students: 0–10 (5), 10–20 (8), 20–30 (15), 30–40 (16), 40–50 (6).

(i) Name the modal class.

1

(ii) Find Σf and n/2.

1

(iii) Find the median.

2

Answer Key

Kept at the back on purpose — so a parent needn't teach. The recurring methods are written out once; the drills get the key step, the answer and the likely slip.

Model tables (learn these once)

Mean (direct). Make a row of class marks x = (lower+upper)/2, multiply each by its frequency f, add to get Σf·x, divide by Σf: $\bar{x} = \Sigma f \cdot x / \Sigma f$. *Assumed-mean:* choose a central class mark a, tabulate d = x − a, then $\bar{x} = a + \Sigma f \cdot d / \Sigma f$ — same answer, smaller numbers. **The f·x (or f·d) column is 2 of the 5 marks.**

Median. Build the cumulative-frequency column. The *median class* is where cf first reaches n/2 (n = Σf). Then $\text{Median} = l + ((n/2 - cf)/f) \times h$, with l, f of the median class, cf the running total *before* it, h the width.

Mode. The *modal class* has the highest frequency. Then $\text{Mode} = l + ((f_1 - f_0)/(2f_1 - f_0 - f_2)) \times h$, with f_1 the modal frequency, f_0 before, f_2 after. No cumulative frequency needed.

Empirical relation. $\text{Mode} = 3\,\text{Median} - 2\,\text{Mean}$; so $\text{Mean} = (3\,\text{Median} - \text{Mode})/2$ and $\text{Median} = (\text{Mode} + 2\,\text{Mean})/3$. (Step-deviation and the ogive are deleted for 2026–27.)

Section 6 — MCQ & Assertion-Reason

Q	Ans	Why
Q1	**B**	(20+30)/2 = 25.
Q2	**B**	$\bar{x} = \Sigma f \cdot x / \Sigma f$.

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- **Very Short Answer.** 16 two-mark questions
- **Short Answer.** 14 three-mark questions
- **Long Answer.** 10 five-mark questions
- **Case studies.** 8 four-mark source-based cases
- **HOTS and trickiest variations.** 10 questions
- **Timed mini-mocks and Answer Key.** 3 single-chapter mini-mocks; every question has its answer, kept at the back

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