MATHS WITHOUT GUESSWORK · BOARD BOOSTER

Pair of Linear Equations

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

Built around what the board actually tests

Graph	Ratios	Solve
meet · parallel · same line	a_1/a_2 · b_1/b_2 · c_1/c_2	substitution & elimination

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

Liked this? The full Pair of Linear Equations in Two Variables Board Booster is ₹99 →

Linear equations 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 II — Algebra, worth 20 marks** of the 80-mark paper, shared across four chapters. It is a **reliable 4–6 mark earner**: unlike some chapters, it genuinely shows up as a full-length question — a graphical solution or a word problem — not just a stray MCQ. 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	Type of lines, number of solutions, the ratio test
A VSA or SA	2–3	Solve by substitution/elimination, or find k for a solution type
A case study or a 5-mark LA	4–5	A word problem, or a graphical solution with the area of a triangle

⚠ COMMON TRAP STUDYING DELETED TOPICS **Two things are OUT of the 2026–27 syllabus and will not be asked:**

- The **cross-multiplication method** — gone. Solve by *substitution* or *elimination* only.
- **Equations reducible to linear form** (the 1/x, 1/y type) — gone.

You still get full marks solving any pair by substitution or elimination — you never needed cross-multiplication.

Q4 The number of solutions of $3x - y = 2$, $9x - 3y = 6$ is:

A. 0 **B.** 1

C. 2 **D.** infinitely many

1 MARK PART-GUIDED

Q5 If a pair of linear equations is consistent, then the lines are:

A. always parallel **B.** always intersecting

C. intersecting or coincident **D.** always coincident

1 MARK INDEPENDENT ★

Q6 If the lines of a pair of linear equations are parallel, the pair has:

A. a unique solution **B.** no solution

C. infinitely many solutions **D.** two solutions

1 MARK GUIDED ★

Q7 The value of k for which $x + 2y - 3 = 0$ and $5x + ky + 7 = 0$ has no solution is:

A. 5 **B.** 10

C. −10 **D.** 2

1 MARK INDEPENDENT ★

Q8 The solution of $x + y = 5$, $x - y = 1$ is:

A. (3, 2) **B.** (2, 3)

C. (4, 1) **D.** (1, 4)

1 MARK GUIDED

Q9 If $x = 2$, $y = 3$ is a solution of $2x + 3y = k$, then k =

A. 12 **B.** 13

C. 5 **D.** 6

1 MARK GUIDED

Q10 The lines $x = 4$ and $y = 3$ intersect at the point:

A. (3, 4)
B. (4, 3)
C. (0, 0)
D. (4, 4)

1 MARK GUIDED

Q11 For a pair to have a unique solution, the condition is:

A. $a_1/a_2 = b_1/b_2$
B. $a_1/a_2 \neq b_1/b_2$
C. $a_1/a_2 = b_1/b_2 = c_1/c_2$
D. $a_1/a_2 = b_1/b_2 \neq c_1/c_2$

1 MARK PART-GUIDED ★

Q12 The number of solutions of $2x + 3y = 9$, $4x + 6y = 18$ is:

A. 0
B. 1
C. 2
D. infinitely many

1 MARK PART-GUIDED

Q13 The graph of $x = -2$ is a line:

A. parallel to the x-axis
B. parallel to the y-axis
C. through the origin
D. $y = -2$

1 MARK PART-GUIDED

Q14 The lines $3x + 2y = 5$ and $6x + 4y = k$ are coincident when k =

A. 5
B. 10
C. 15
D. 2

1 MARK INDEPENDENT ★

Q15 The pair $kx - y = 2$, $6x - 2y = 3$ has a unique solution for:

A. $k = 3$
B. $k \neq 3$
C. all k
D. $k = 0$ only

1 MARK INDEPENDENT ★

Very Short Answer (2-mark) set

Sixteen 2-mark questions. A quick solve, a condition, or a short word problem — state the answer clearly.

V1 Solve by substitution: $x + y = 14$, $x - y = 4$.

2 MARKS GUIDED ★

V2 Solve by elimination: $2x + y = 8$, $x - y = 1$.

2 MARKS GUIDED ★

V3 Find the value(s) of k for which $kx - 2y = 3$ and $3x + y = 5$ have a unique solution.

2 MARKS PART-GUIDED ★

V4 For what value of k do $x + 2y = 3$ and $5x + ky = -7$ have no solution?

2 MARKS INDEPENDENT ★

V5 Does the pair $x - 2y = 0$, $3x + 4y = 20$ have a unique solution? If so, find it.

2 MARKS PART-GUIDED

V6 The sum of two numbers is 35 and their difference is 13. Find the numbers.

2 MARKS GUIDED ★

V7 Write the condition on the ratios for the pair $a_1x + b_1y + c_1 = 0$, $a_2x + b_2y + c_2 = 0$ to have *no* solution.

2 MARKS PART-GUIDED

Case studies (4-mark)

➤ CHOOSE THE METHOD EVERY CASE HIDES A PAIR OF EQUATIONS Each case gives a real situation, then sub-parts (1 + 1 + 2 marks). Name the two unknowns, write the two equations from the two conditions, then solve. The first sub-part is usually just "frame the equations."

C1 **Stationery shop.** 3 pens and 2 notebooks cost ₹80; 4 pens and 3 notebooks cost ₹110.

- **(i)** Taking the cost of a pen as ₹x and a notebook as ₹y, write the two equations. (1)
- **(ii)** Find the cost of a pen. (1)
- **(iii)** Find the cost of a notebook. (2)

4 MARKS PART-GUIDED ★

C2 **Choosing a gym.** Gym A charges ₹1000 to join plus ₹500 per month. Gym B charges ₹500 to join plus ₹600 per month. Let y be the total cost for x months.

- **(i)** Write the cost equation for each gym. (1)
- **(ii)** After how many months is the total cost the same? (1)
- **(iii)** What is that equal total cost? (2)

4 MARKS INDEPENDENT ★

Answer Key

Kept at the back on purpose — so a parent needn't teach. Model questions get full step-marked solutions; drills get the key steps, the answer, and the likely slip.

Section 6 — MCQ & Assertion-Reason

Q	Ans	Why
Q1	**B**	1/2 = 2/4 but ≠ 4/12 ⇒ parallel ⇒ no solution.
Q2	**C**	All ratios = 1/2 ⇒ coincident ⇒ infinitely many.
Q3	**C**	2/4 = 3/6 = 7/14 = 1/2 ⇒ coincident.
Q4	**D**	3/9 = −1/−3 = 2/6 = 1/3 ⇒ infinitely many.
Q5	**C**	Consistent = has a solution = intersecting (one) or coincident (infinite).
Q6	**B**	Parallel lines never meet ⇒ no solution.
Q7	**B**	No solution ⇒ 1/5 = 2/k ⇒ k = 10 (and 1/5 ≠ −3/7). ✓
Q8	**A**	Adding: 2x = 6 ⇒ x = 3, y = 2.
Q9	**B**	2(2) + 3(3) = 13.
Q10	**B**	x = 4 and y = 3 meet at (4, 3).
Q11	**B**	Unique ⇒ $a_1/a_2 \neq b_1/b_2$.
Q12	**D**	2/4 = 3/6 = 9/18 ⇒ coincident ⇒ infinitely many.
Q13	**B**	x = −2 is a vertical line, parallel to the y-axis.
Q14	**B**	Coincident ⇒ 5/k = 1/2 ⇒ k = 10.
Q15	**B**	Unique ⇒ k/6 ≠ −1/−2 = 1/2 ⇒ k ≠ 3.

MATHS WITHOUT GUESSWORK

Liked this? Get the full Pair of Linear Equations in Two Variables Board Booster for ₹99

You have just read 8 sample pages. The full Booster is 45 pages with 88 questions.

What is in the full Booster

- **MCQ and Assertion-Reason.** 30 one-mark questions
- **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

Buy the full Booster — ₹99

or visit www.mathswithoutguesswork.com/board-boosters/pair-of-linear-equations

Instant PDF download after payment · Secure payment by Razorpay · If it doesn't reach you, we'll resend it.

Still learning the chapter? Get the **Pair of Linear Equations in Two Variables concept ebook + Board Booster for ₹149**: bought separately they cost ₹198, so you save ₹49.

Preparing for the whole paper? The **Board Exam Kit** has all 14 Board Boosters and the Board Final Pack for ₹799: bought one by one they cost ₹1,785, so you save ₹986.