

Mathematics

Practice Test Paper 7

(Chapter 3: Pair of Linear Equations in Two Variables)

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. Use algebraic methods where required. Use of calculators is not allowed.

SECTION A

(5 questions $\times$ 1 mark = 5 marks)

1. A consistent pair of linear equations may be represented by:

- (A) only parallel lines
- (B) only coincident lines
- (C) intersecting or coincident lines
- (D) two lines with no common point

2. For $2x + 3y = 18$ and $x - y = 4$, the value of y is:

- (A) 2
- (B) 4
- (C) 6
- (D) 10

3. If a pair reduces to the identity $12 = 12$ after substitution, and both original equations represent lines, it has:

- (A) no solution
- (B) twelve solutions
- (C) one solution
- (D) infinitely many solutions

4. Which ordered pair lies on both $x = -1$ and $2x + y = 3$?

- (A) (1, 1)
- (B) (-1, 5)
- (C) (-1, 1)
- (D) (5, -1)

5. If numbers x and y are in the ratio $4 : 3$, which relation must always hold?

- (A) $4x = 3y$
- (B) $x - y = 1$
- (C) $3x = 4y$
- (D) $x + y = 7$

SECTION B

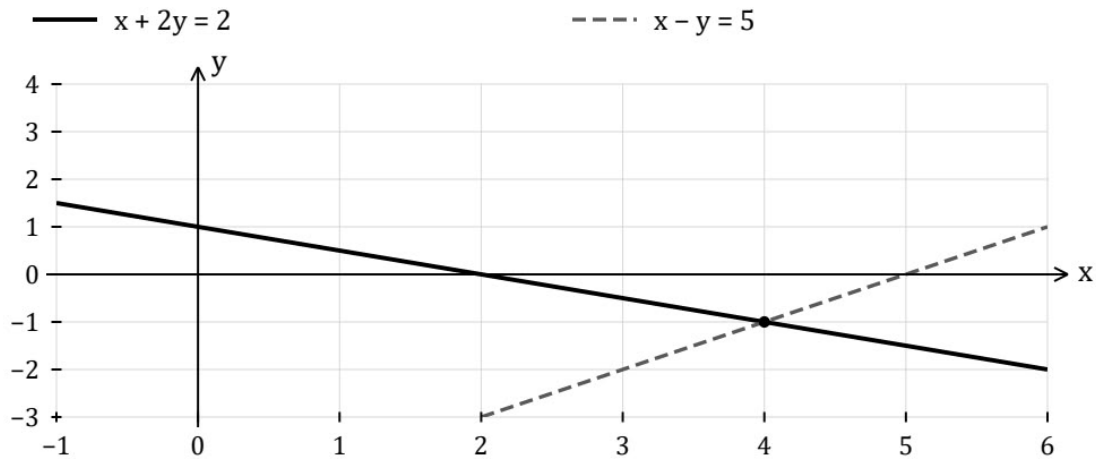
(4 questions $\times$ 2 marks = 8 marks)

6. Solve $3x + 4y = 10$ and $2x - 2y = 2$ by substitution.

7. Find all p for which $(p + 2)x - (2p + 1)y = 3(2p - 1)$ and $2x - 3y = 7$ have a unique solution.

8. A pair of lines has coefficient ratios $\frac{a}{d} = \frac{b}{e} = \frac{2}{5}$, while $\frac{c}{f} = \frac{3}{5}$, with non-zero denominators. Can any point satisfy both $ax + by + c = 0$ and $dx + ey + f = 0$? Explain.

9. Read the common solution from the graph. Hence find $x + y$.



SECTION C

(3 questions $\times$ 3 marks = 9 marks)

10. A taxi fare is a fixed charge plus a charge per kilometer. A 10 km trip costs ₹105 and a 15 km trip costs ₹155. Find both charges and the fare for 25 km.

11. The difference of two numbers is 66, and the larger is four times the smaller. Form equations and solve by elimination.

12. Two people's monthly incomes are in the ratio 5 : 4, and their expenditures are in the ratio 3 : 2. Each saves ₹2000 per month. Find their monthly incomes.

SECTION D

(Application Based Question - 3 marks)

13. A print shop charges a fixed setup fee ₹ x plus ₹ y per page. A 40-page job costs ₹90 and a 100-page job costs ₹180.

(i) Write the equations.

(ii) Find the charge per page.

(iii) Find the price of a 60-page job.