Class 10 Mathematics · Chapter 3: Pair of Linear Equations in Two Variables

Worksheet · 20 marks · about 40 minutes · based on NCERT

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1. In solving $2x + y = 7$ and $3x - 4y = 5$ by substitution, $y = 7 - 2x$ is put into the second equation. The value of x obtained is [1]

(a) -3
(b) 1
(c) $\frac{33}{5}$
(d) 3

2. The pair of equations $3x + 5y - 7 = 0$ and $4x - 2y + 1 = 0$ has [1]

(a) no solution
(b) exactly one solution
(c) infinitely many solutions
(d) exactly two solutions

3. The number of common solutions of a pair of linear equations in two variables can NOT be [1]

(a) 0
(b) 1
(c) 2
(d) infinitely many

4. Which equation, taken with $3x - 4y + 6 = 0$, gives a pair of coincident lines? [1]

(a) $6x - 8y + 6 = 0$
(b) $6x - 8y + 12 = 0$
(c) $4x - 3y + 6 = 0$
(d) $-3x + 4y + 6 = 0$

5. Adding the equations $4x + 3y = 18$ and $5x - 3y = 9$ gives x equal to [1]

(a) 3
(b) 27
(c) 9
(d) 2

6. For what values of k does the pair $x + 2y = 3$ and $5x + ky = 7$ have a unique solution? [2]

7. Solve $0.3x + 0.5y = 1.9$ and $0.7x - 0.2y = 1.7$. [2]

8. Solve by substitution: $x + 3y = 10$ and $2x - y = 6$. [2]

9. A cycle-hire stand in Mysuru charges a fixed amount, which covers the first hour, and a rate for every hour after that. Ramesh paid ₹110 for 4 hours and Asha paid ₹170 for 7 hours. Find the fixed charge and the rate per extra hour. [3]

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10. A two-digit number is 7 times the sum of its digits, and its digits differ by 3. Find the number. [3]

11. The present ages of a father and his daughter add to 50 years. Five years ago the father was 7 times as old as his daughter. Find their present ages. [3]