Chapter- 3

PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

WORKSHEET

1. If a pair of linear equations is consistent, then the lines will be

   (a) Parallel (b) Always coincident

   (c) Intersecting or coincident (d) Always intersecting

2. The value of k for which the pair of linear equations $4x + 6y - 1 = 0$ and $2x + ky - 7 = 0$ represents parallel lines is

   (a) k = 3 (b) k = 2 (c) k = 4 (d) k = -2

3. The pair of linear equation $3x + 4y + 5 = 0 \text{and} 12x + 16y + 15 = 0$ have

   (a) Unique solution (b) Many solutions (c) No solution (d)Exactlytwo solutions

4. The lines representing the linear equations $2x - y = 3 \text{and } 4x - y = 5$

   (a) Intersect at a point (b) Are parallel

   (c) Are coincident (d) Intersect at exactly two points

5. The condition so that the pair of linear equations $kx + 3y + 1 = 0, 2x + y + 3 = 0$ has exactly one solution.

   (a) k = 6 (b) $k \neq 6$ (c) k = 3 (d) $k \neq 3$

6. If $x = a, y = b$ is the solution of the equations $x - y = 2 \text{ and } x + y = 4$, then the values of a and b are, respectively.

   (a) 3 and 5 (b) 5 and 3 (c) 3 and 1 (d) -1 and -3

7. One equation of a pair of dependent linear equation is $-5x + 7y = 2$, the second equation can be.

   (a) $10x + 14y + 4 = 0$ (b) $-10x - 14y + 4 = 0$

   (c) $-10x + 14y + 4 = 0$ (d) $10x - 14y = -4$

8. The lines represented by the equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are coincident if

   (a) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ (b) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ (c) $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ (d) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

9. Two lines are given parallel. If the equation of one of the lines is $10x - 8y - 7 = 0$, then the equation of the second line can be.

   (a) $15x - 6y - 21 = 0$ (b) $15x - 12y - 7 = 0$ (c) $15x + 12y - 21 = 0$ (d) $15x + 12y + 7 = 0$

10. The pair of equations $x = 3, y = 4$ graphically represent lines which are

    (a) Parallel (b) Intersect at the point (3, 4)

    (c) Coincident (d) Interst at the point (4, 3)

11. The value of k for which the pair of equations $4x - 5y = 5 \text{ and } kx + 3y = 3$ is inconsistent is

    (a) $\frac{12}{5}$ (b) $-\frac{12}{5}$ (c) -3 (d) 1

12. Which of the following is not a solution of the pair of equations $2x - 5y = 7$ and $4x - 10y = 14$?

    (a) $x = 6, y = 1$ (b) $x = 1, y = 1$ (c) $x = \frac{7}{2}, y = 0$ (d) $x = 3, y = 1$

13. Solve $148x + 231y = 527, 231x + 148y = 610$

14. Solve $\frac{4}{x} + 3y = 14, \frac{3}{x} - 4y = 23$

15. For what value of $k, 2x + 3y = 4 \text{ and } (k + 2)x + 6y = 3k + 2$ will have infinitely many solutions.

16. Is the system of linear equations $2x + 3y - 9 = 0$ and $4x + 6y - 18 = 0$ consistent?

17. Solve $99x + 101y = 499 \text{ and } 101x + 99y = 501$

18. For what value of k, will be pair of equations $x + 2y = 5, 3x + ky - 15 = 0$ have

    (a) Unique solution (b) No solution

19. The sum of the numerator and denominator of a fraction is 8. If 3 is added to both the numberator and the denominator, the fraction becomes ¾. Find the fraction.