

## CHAPTER-3 | Pair of Linear Equations in Two Variables

### QUIZ PART-01

1. The equation  $x + 3y - 3 = 0$  is an example of a:
- Linear equation
  - Quadratic equation
  - Polynomial equation
  - Non-linear equation

**Explanation:**  $x + 3y - 3 = 0$  is a linear equation in two variables because the highest exponent of each variable is 1

2. If a pair of linear equations is consistent, the lines are:
- Parallel
  - Always Coincident
  - Always Intersecting
  - Intersecting or Coincident

**Explanation:** A consistent pair of linear equations can either have intersecting lines (one solution) or coincident lines (infinitely many solutions).

3. The lines represented by the equations  $4x + 2ky - 3 = 0$  and  $2x + 3y - 5 = 0$  are parallel when  $k$  is:
- 6
  - 3
  - 4
  - 2

**Explanation:** For the lines to be parallel, their slopes must be equal. Solving the system gives  $k = 3$ .

4. A linear equation in two variables has:
- Exactly one solution
  - At least one solution
  - No solution
  - Infinitely many solutions

**Explanation:** A linear equation in two variables has infinitely many solutions, represented by all points lying on the line.

5. The graphical method for solving linear equations in two variables involves:
- Solving algebraically
  - Plotting the equations on a graph
  - Using substitution method
  - None of these

**Explanation:** In the graphical method, we plot the linear equations on a graph and find the point where they intersect.

6. The system of equations  $2x + 3y = 6$  and  $4x + 6y = 12$  is:
- Inconsistent
  - Dependent
  - Independent
  - None of these

**Explanation:** These equations represent the same line, so they are dependent and have infinitely many solutions.

7. The solution to the system of equations  $x + 2y = 4$  and  $3x - y = 5$  is:
- $x = 1, y = 2$
  - $x = 2, y = 1$
  - $x = 3, y = 2$
  - $x = 4, y = 1$

**Explanation:** Solving this system of equations yields  $x = 2$  and  $y = 1$ .

8. A linear equation in two variables has a solution if the lines represented by the equations are:
- Parallel
  - Coincident
  - Perpendicular
  - Non-intersecting

**Explanation:** The lines are coincident (i.e., they overlap) when the equations represent the same line, resulting in infinitely many solutions.

9. The condition for the system of linear equations to have no solution is when the lines are:
- Coincident
  - Parallel
  - Intersecting
  - None of these

**Explanation:** If the lines are parallel, the system has no solution as the lines never intersect.

10. In a system of two linear equations, if the determinant of the coefficient matrix is zero, the system is:
- Consistent
  - Inconsistent
  - Dependent
  - Independent

**Explanation:** If the determinant of the coefficient matrix is zero, the system is dependent and has infinitely many solutions