**Self-Assignment – 1**

**Topic: Pair of linear equations in two variables**

**Class: 10th Max. Marks: 25**

**Answer all questions. Each question carries ½ mark. 10 × ½ = 5M**

1. What is the condition if ax + by + c = 0 represents a linear equation in two variables x and y?
2. How many solutions are there for the pair of the linear equations 2x + y – 5 = 0 and 3x – 2y – 5 = 0?
3. Write a linear equation which is parallel to the equation 2x + 3y – 5 = 0?
4. Which of the following is true?
5. Consistent pair of linear equations are parallel
6. Consistent pair of linear equations coincide
7. Inconsistent pair of linear equations are parallel
8. Consistent pair of linear equations have unique solution.
9. Ashok says, “The equations of parallel lines are differ only in constant terms”. Do you agree with him? Justify.
10. What is the nature of the graph of the equations 6x – 2y + 9 = 0 and 3x – y + 12 = 0?
11. What are consistent lines?
12. Solve: 2x – (4 – x) = 5 – x?
13. Formulate a pair of linear equations in two variables “5 pencils and 7 pens together cost ₹ 50, whether 7 pencils and 5 pens together cost ₹ 46”.
14. Which of the following pairs has a unique solution?
15. 2x + y = 3 and x + 2y = 5
16. 2x + 4y = 6 and 4x + 8y = 12
17. 4x + 8y = 14 and 8x + 16y – 9 = 0
18. X + 5y – 3 = 0 and 3x + 15y – 9 = 0

**Answer all questions. Each question carries 1 mark. 4 × 1 = 4 M**

1. For what value of ‘p’, the equations 2x + py = -5 and 3x + 3y = -6 have no solutions?
2. In a rectangle ABCD, AB = x + y, BC = x – y, CD = 9 and DA = 3. Find the values of x and y?
3. Reduce the pair of equations = 13 and = 2 (x ≠0, y ≠0) into a pair of linear equations in two variables ‘a’ and ‘b’?
4. If x = a and y = b is solution for the pair of linear equations x – y = 2 and x + y = 4, then find the values of a and b?

**Answer all questions. Each question carries 2 marks. 4 × 2 = 8M**

1. If the sum of two numbers is 18 and the sum of their reciprocals is 1/4, then find the numbers?
2. Write a quadratic equation whose roots are the solutions of the pair of linear equations 2x + y = 7 and x – y = 2?
3. Solve the pair of the linear equations in Elimination method?

3x + 4y = 25 and 5x – 6y = -9

1. Express as Algebraic expressions of the following?
2. Three times of a number, when increased by 8 gives 19.
3. The digits in ones and tens places of two digit number are ‘a’ and ‘b’.

**Answer all questions. Each question carries 4 marks. 2 × 4 = 8M**

1. The perimeter of a rectangular plot is 32m. If the length is increased by 2m and the breadth is decreased by 1m, the area of the plot remains the same. Find the length and breadth of the plot?

Or

Hari went to a bank to withdraw Rs. 2000/-. He asked the cashier to give the cash in Rs. 50/- and Rs. 100/- notes only. He got 25 notes in all. Can you tell how many notes, each of Rs. 50/- and Rs. 100/-, he received?

1. Solve and ?

Or

The angles of a cyclic quadrilateral ABCD are **∠**A = (6x + 10)0, **∠**B = (5x)0, **∠**C = (x + y)0 and **∠**D = (3y – 10)0. Find the values of ‘x’ and ‘y’ and also find the angles?