Multiple Choice Questions

1. **The lines represented by 3x + y – 12 = 0 and x – 3y + 6 = 0 intersects the y – axis at :**
   (a) (0, – 2) and (0, 12)
   (b) (0, 2) and (0, – 12)
   (c) (0, – 2) and (0, – 12)
   (d) (0, 2) and (0, 12)

2. **If the pair of equations 3x – y + 8 = 0 and 6x – ry + 16 = 0 represent coincident lines, then the value of r is:**
   (a) –1/2
   (b) 1/2
   (c) 2
   (d) –2

3. **The solution of the pair of equations x + y = a + b and ax – by = $a^2 - b^2$ is:**
   (a) x = –a, y = b
   (b) x = a, y = b
   (c) x = b, y = a
   (d) x = a, y = –b

4. **The pair of linear equations x + 2y + 5 = 0 and –3x – 6y + 1 = 0 has:**
   (a) exactly two solutions
   (b) a unique solution
   (c) no solution
   (d) infinitely many solutions

5. **In a cyclic quadrilateral ABCD, it is being given that A = (x + y + 10)°, B = (y + 20)°, C = (x + y – 30)° and D = (x + y)°. Then, B = ?**
   (a) 110°
   (b) 70°
   (c) 100°
   (d) 80°

6. **For what value of k, do the equations 3x – y + 8 = 0 and 6x – ky = –16 represent coincident lines?:**
   (a) –2
   (b) 2
   (c) –1/2
   (d) ½

7. **The sum of the digits of a two-digit number is 12. The number obtained by interchanging the two digits exceeds the given number by 18. Find the number :**
   (a) 58
   (b) 57
   (c) 85
   (d) 75

8. **If ∠A and ∠B are complementary angles and ∠A is x, then which equation can be used to find ∠B which is denoted by y? —**
   (a) y = (180° – x)
   (b) y = (90° – x)
   (c) y = (90° + x)
   (d) y = (x + 180°)

9. **If 2x + 3y = 15 and 3x + 2y = 25, then the value of x – y is**
(a) –10 (b) 8
(c) 10 (d) –8

10. **The value of p if (–2, p) lies on the line represented by the equation 2x – 3y + 7 = 0, is::**
(a) –1 (b) 13/2
(c) –13/2 (d) 1

Fill in the blanks :

11. Two lines coincide if the system of equations has ___ many solutions.

12. If two linear equations in two variables are consistent and independent, their graphs will intersect at ___ point(s).

True / False

13. If two lines are parallel, their pair of linear equations will have no solution.

14. If two linear equations are consistent and dependent, they have infinitely many solutions.

Very Short Type Questions

15. Given the linear equation 3x + 4y - 8 = 0, write another linear equation in two variables such that the geometrical representation of the pair so formed is parallel lines.

16. Find the value of k, if x = 2, y = 1 is a solution of the equation 2x + 3y = k.

Short Type Questions

17. If 2x + y = 13 and 4x - y = 17, find the value of (x – y).

18. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether the lines representing the pair of linear equations intersect at a point, are parallel or coincident: 5x – 4y – 8 = 0; 7x + 6y – 9 = 0.

Essay Type Questions

19. For what values of m and n the following system of liner equations has infinitely many solutions.
3x + 4y = 12 and (m + n) x + 2 (m – n) y = 5m – 1

20. The difference of the digits of two digit number is 3. If this number is added to the number obtained by interchanging the digits, the sum is 99. Find the number?

HOTS

21. Read the following text carefully and answer the questions that follow:

Essel World is one of India's largest amusement parks that offers a diverse range of thrilling rides, water attractions and entertainment options for visitors of all ages. The park is known for its iconic

''Water Kingdom'' section, making it a popular destination for family outings and fun-filled adventure. The ticket charges for the park are

₹ 150 per child and ₹ 250 per adult.

On a day, the cashier of the park found that 300 tickets were sold and an amount of ₹ 55,000 was collected. Based on the above, answer the following questions:

i. If the number of children visited be x and the number of adults visited be y, then write the given situation algebraically.

ii. a. How many children visited the amusement park that day?

OR

b. How many adults visited the amusement park that day?

iii. How much amount will be collected if 250 children and 100 adults visit the amusement park?

1. (d) (0, 2) and (0, 12)

2. (c) r = 2

3. (b)) x = a, y = b

4. (c) No solution

5. (d) 80°

6. (b) 2

7. (b 57

8. (b) y = (90° – x)

9. (c) 10

10. (d) 1

11. Infinitely

12. One

13. True

14. True

15. Given equation 3x + 4y – 8 = 0
One of the linear equation in two variable can be : 6x + 8y + 7 = 0

16. k = 7

17. 2; x = 5, y = 3

18. Intersecting lines

19. m = 5, n = 1

20. 63

21.

i. x + y = 300 ...(i)
150 x + 250 y = 55000 ...(ii)

ii. (a) Number of children visited park (x) = 200

OR

(b) Number of adults visited park (y) = 100

iii. Amount collected = ₹ 62500