

Previous Year Boards Questions

Chapter 3 – Pair of Linear Equations in 2 Variables

1 Mark:

- Write whether the following pair of linear equations is consistent or not:
 $x + y = 14$
 $x - y = 4$
CBSE 2009, Foreign (30/2/1)
- Find the number of solutions of the following pair of linear equations:
 $x + 2y - 8 = 0$
 $2x + 4y = 16$
CBSE 2009, Outside Delhi (30/1)
- For what value of k , the following pair of linear equations has infinitely many solutions?
 $10x + 5y - (k - 5) = 0$
 $20x + 10y - k = 0$
Sample Question Paper III, 2008

2 Marks:

- Find the value of k for which the following pair of linear equations have infinitely many solutions:
 $2x + 3y = 7; (k - 1)x + (k + 2)y = 3k$
CBSE 2010, Delhi (30/1/1)
- For what value of k will the following pair of linear equations have no solution?
 $2x + 3y = 9; 6x + (k - 2)y = (3k - 2)$.
CBSE 2010, Foreign (30/2/1)
- Find the value(s) of k for which the pair of linear equations $kx + 3y = k - 2$ and $12x + ky = k$ has no solution.
CBSE 2009, Delhi (30/1/1)
- Without drawing the graph, find out whether the lines representing the following pair of linear equations intersect at a point, are parallel or coincident:
 $9x - 10y = 21$
 $\frac{3}{2}x - \frac{5}{3}y = \frac{7}{2}$
CBSE 2009, Foreign (30/2/1)
- Without drawing the graphs, state whether the following pair of linear equations will represent intersecting lines, coincident lines or parallel lines:
 $6x - 3y + 10 = 0$
 $2x - y + 9 = 0$
Justify your answer.
Sample Question Paper I, 2008
- Find the solution of the pair of equations:
 $\frac{3}{x} + \frac{8}{y} = -1, \frac{1}{x} - \frac{2}{y}, x, y \neq 0$
Sample Question Paper III, 2008

3 Marks:

- The sum of numerator and denominator of a fraction is 3 less than twice the denominator. If each of the numerator and denominator is decreased by 1, the fraction becomes $\frac{1}{2}$. Find the fraction.
CBSE 2010, Delhi (30/1/1)
- Solve the following pair of equations:
 $\frac{4}{x} + 3y = 8$
 $\frac{6}{x} - 4y = -5$
CBSE 2010, Delhi (30/1/1)
- Solve the following pair of linear equations for x and y :
 $2(ax - by) + (a + 4b) = 0; 2(bx + ay) + (b - 4a) = 0$
CBSE 2010, Foreign (30/2/1)
- A number consists of two digits. When the number is divided by the sum of its digits, the quotient is 7. If 27 is subtracted from the number, the digits interchange their places. Find the number.
CBSE 2010, Foreign (30/2/1)
- Solve the following pair of equations:
 $\frac{5}{x-1} + \frac{1}{y-2} = 2$
 $\frac{6}{x-1} - \frac{3}{y-2} = 1$
CBSE 2009, Delhi (30/1/1)
- Solve for x and y :
 $\frac{ax}{b} - \frac{by}{a} = a + b$
 $ax - by = 2ab$
CBSE 2009, Outside Delhi (30/1)
- The sum of two numbers is 8. Determine the numbers if the sum of their reciprocals is $\frac{8}{15}$.
CBSE 2009, Outside Delhi (30/1)

8. Represent the following pair of equations graphically and write the coordinates of points where the lines intersect y -axis.
 $x + 3y = 6$
 $2x - 3y = 12$

CBSE 2008, Foreign (30/2/1)

9. For what value or ' k ' will the following pair of linear equations have infinitely many solutions
 $kx + 3y = k - 3$
 $12x + ky = k$

10. Solve for x and y

$$\left. \begin{array}{l} \frac{5}{x} + \frac{1}{y} = 2 \\ \frac{6}{x} - \frac{3}{y} = 1 \end{array} \right\} x \neq 0, y \neq 0$$

Sample Question Paper II, 2008

11. Draw the graph of the following pair of linear equations

$$x + 3y = 7$$

$$2x - 3y = 12$$

Hence find the area of the region bounded by the

$$x = 0, y = 0 \text{ and } 2x - 3y = 12$$

Sample Question Paper I, 2008

12. Solve the following system of linear equations graphically:

$$3x + y - 12 = 0$$

$$x - 3y + 6 = 0$$

Shadow the region bounded by these lines and the x -axis. Also find the ratio of areas of triangles formed by given lines with x -axis and the y -axis.

Sample Question Paper II, 2008

13. From a pair of linear equations in two variables using the following information and solve it graphically:

Five years ago, Sagar was twice as old as Tiru. Ten year later Sagar's age will be ten years more than Tiru's age. Find their present ages. What was the age of Sagar when Tiru was born?

Sample Question Paper III, 2008

