Class : IX Subject : Mathematics Assignment 7 : October 2010Chapter: Linear Equations in 2 variables

1. (a)Give the equations of two lines passing through $(3, -2)$. How many more such lines are there, and why?

   (b)Solve the equation $2x + 5 = x + \frac{5}{2}$, and represent the solution(s) on (i) the number line(ii) the Cartesian plane.

   (c) Give the geometric representations of $2y - 9 = 0$ as an equation (i) in one variable (ii) in two variables.

2. Draw geometric representations of $2x + 3y = 5$. Check whether the points (- 3, 4) and (7, - 3) are solutions of the given equation.
3. Draw the graph of the following equations. Read two more solutions from the graph in each case. Also, find the coordinates of the points where the line intersects the two axes:-

   (a) $x - 3y = 6$ (b) $2x - 5y = -10$ (c) $3x + 4y = -12$.
4. Find 4 solutions of each of the following equations:-

   (a) $x + 2y = -5$ (b) $2(x - 1) + 3 = 5(1 - y)$ (c) $2x + 3y = 6$ (d) $4x + 20 = 5y$.
5. Find a value of 'a' such that :-

   a. $x = 3, y = -2$, is a solution of the equation $5x - 2ay = 5$. Now, find one more solution of this equation.

   b. $x = -1, y = 4$ is a solution of the equation $2ax - 3y = 8$. Now, find one more solution of this equation.

   c. $x = 1, y = 1$ is a solution of the equation $5x - 2ay = 3a$. Now, find one more solution of this equation.

   d. $x = 3, y = 4$ is a solution of the equation $5ax + 12ay = 63$.Now, find one more solution of this equation.
6. Draw the graphs of the following equations on the same pair of axes:-

   (1) $2y + 5 = 0$ (2) $x = 4$ (3) $3x + 12 = 0$

   (4) $y - 5 = 0$ (5) $x - y = 0$ (6) $2x + y = 0$.
7. The taxi fare in a city is as follows: For the first two kilometres, the fare is Rs.25 and for the subsequent distance it is Rs.10 per km. Taking the distance covered as x km and the total fare as Rs.y, write the linear equation representing this situation and draw its graph. Also, from the graph, determine the fare that a person will have to pay for covering a distance of 10km.