

INTERNATIONAL INDIAN SCHOOL, RIYADH

CLASS: IX MATHEMATICS WORKSHEET

TOPIC : LINEAR EQUATIONS IN TWO VARIABLES

1. Express  $x$  in terms of  $y$  if  $(x/4) - 3y = 7$ .
2. Express  $15x = -6 + 10y$  in the form of  $ax + by + c = 0$  and indicate the values of  $a$ ,  $b$  and  $c$ .
3. A fraction becomes  $2/5$  when 2 is added to the numerator and 5 is subtracted from the denominator. Represent this situation as a linear equation in two variables. Also find its two solutions.
4. If  $(m, 2m + 1)$  is a solution of the equation  $3x - 5y = 8$ , find the value of  $m$ .
5. Express the equation  $y = 7x - 2$  in the standard form and find two solutions. Draw the graph of this equation. Also check whether the point  $(2, 11)$  is a solution.
6. Express  $y$  in terms of  $x$ , given that  $7x - 3y = 15$ . Check if the line represented by the equation intersect the  $Y$  - axis at  $y = -5$ .
7. Draw the graphs of the following equations on the same graph sheet.  $x = 4$ ,  $x = 2$ ,  $y = 1$ ,  $y - 3 = 0$ . Also, find the area enclosed between these lines.
8. Draw the graphs of the equations  $3x + 4y = 7$  and  $3x - 2y = 1$ . Find the point of intersection of these lines.
9. Give the geometrical representation of the equation  $-y = -11 + y$  as an equation
  - a. In one variable
  - b. In two variables.
10. Write three equations of the lines which passes through a point  $(5, -4)$ . How many such lines are there?
11. Draw the graph of the equation  $3x + y = 3$ . How many solutions of the given equation are possible? Name the figure formed by the given line and coordinate axes. Also find the area of this figure.
12. Without drawing, find the point at which the graph of the equation  $5x + 7y = 40$ , cut the  $X$ - axis.
13. On her birthday Priya distributed chocolates in an orphanage. She gave 5 chocolates to each child and 20 chocolates to adults. Taking number of children as  $x$  and total chocolates distributed as  $y$ .
  - a. Form a linear equation.
  - b. If she distributed 145 chocolates how many children are there in the orphanage?
  - c. Explain the value depicted here by Priya
14. A has  $x$  apples and B has  $y$ . If A gives 10 apples to B, then number of apples left with A will be twice of apples, B will be having then. Write this information as a linear equation in two variables and draw its graph.

15. The graph of  $y = mx$  is a straight line passing through the \_\_\_\_\_.  $x = a$  is a line parallel to \_\_\_\_\_. and  $y - k = 0$  is a line parallel to \_\_\_\_\_.
16. \_\_\_\_\_ is the point at which the equation  $4x - 7y = 8$ , meets the Y – axis.
17. The equation  $x = 4$  can be written in two variable as \_\_\_\_\_.
18. If  $(5, 2)$  is a solution of  $5x - ky = 5$ , then  $k =$  \_\_\_\_\_.
19.  $x = 2, y = 1$  is a solution of  $2x + 3y = 8$ , True/ False.
20. The coordinates of a general point on the Y – axis is \_\_\_\_\_, X-axis is \_\_\_\_\_ and the origin is \_\_\_\_\_.
21. Write the equation  $y = -3$  in the form of  $ax + by + c = 0$ . Find the coordinates of points on its graph which are at a unit distance away from y- axis.
22. Ratio of two numbers  $x$  and  $y$  is  $5 : 4$ . Write this in the form of a linear equation in two variables. Represent this graphically. Also, find graphically the larger number, if the other number is 20.

\*\*\*\*\*