

# CLASS – X

## MATHEMATICS – LINEAR EQUATIONS IN TWO VARIABLES

1. Solve for x and y:  $4x + \frac{y}{3} = \frac{8}{3}$  and.
2. Solve for x and y:  $\frac{3a}{x} - \frac{2b}{y} + 5 = 0$  and  $\frac{x}{2} + \frac{3y}{4} = -\frac{5}{2} \frac{a}{x} + \frac{3b}{y} - 2 = 0$ . [ $x \neq 0, y \neq 0$ ]
3. Solve for x and y:  $47x + 31y = 63$  and  $31x + 47y = 15$ .
4. Solve for x and y:  $\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}$  and  $\frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$ .
5. Solve:  $2(ax - by) + a + 4b = 0$  and  $2(bx + ay) + b - 4a = 0$ .
6. A chemist has one solution containing 50% acid and a second one containing 25% acid. How much of each should be used to make 10 liters of a 40% acid solution?
7. 8 men and 12 boys can finish a piece of work in 10 days while 6 men and 8 boys can finish it in 14 days. Find the time taken by one man alone and that by one boy alone to finish the work.
8. Solve:  $2x + 3y = 11$  and  $2x - 4y = -24$  & hence the value of m for which  $y = mx + 3$ .
9. Solve the following pair of linear equation by reducing them to pair of linear equation.  
$$\frac{5}{x-1} + \frac{1}{y-2} = 2; \frac{6}{x-1} - \frac{3}{y-2} = 1$$
10. Five years hence the age of father will be three times that of his son. Five years ago, father age was seven times that of his son. What are their present ages?
11. Ritu can row downstream 20 km in 2 hours and up stream 4 km in 2 hours. Find the speed of moving in still water and the speed of current.
12. Find the value of a & b for which the given system of equation has an infinite no. of solution.  
$$2x + 3y = 7; (a + b + 1)x + (a + 2b + 2)y = 4(a + b) + 1$$
13. Solve the following system of linear equation graphically  $4x - y = 4, 3x + 2y = 14$ . Find also the area of triangle formed by lines & y-axis.
14. If  $a_1x + b_1y = c_1$  and  $a_2x + b_2y = c_2$  prove that:  $\frac{x}{b_1c_2 - b_2c_1} = \frac{y}{c_1a_2 - c_2a_1} = \frac{-1}{a_1b_2 - a_2b_1}$

15. Solve for x and y if:  $(0.2x + 0.3y - 1.3)^2 + (0.4x + 0.5y - 2.3)^2 = 0.$

**NOTE-**

**PLEASE SOLVE THIS WORKSHEET IN MATHS ASSIGNMENT NOTEBOOK ALONGWITH  
CHEPTER 14 & 15**