

## Chapter-3 Linear Equations

## Section 1

- The system of equations  $2x + 7y = -5$  and  $3x - 5y = 8$  has  
(a) Unique solution (b) infinitely many solutions (c) No solution
- A linear equation in 2 variables is \_\_\_\_\_
- Two given lines in a plane \_\_\_\_\_ or \_\_\_\_\_ or \_\_\_\_\_
- The solution of an equation in two variables is a \_\_\_\_\_ of values \_\_\_\_\_
- A linear equation in two variables has  
(a) no solution (b) one solution (c) two solutions (d) infinitely many solutions
- $\sqrt{5}x - \sqrt{7}y = 0$  and  $\sqrt{7}x + \sqrt{5}y = 0$  has solution  
(a)  $x = 0, y = 0$  (b)  $x = 1, y = 0$  (c)  $x = 0, y = 1$  (d)  $x = 1, y = 1$
- Form a pair of linear equations in two variables and solve it. Find the angle which is equal to its supplement.

## Section 2

- Solve by cross multiplication Solve  $x + y = a + b$ ,  $ax - by = a^2 - b^2$
- Find if  $2x + 7y = -5$  and  $3x - 5y = 8$  are consistent or inconsistent. If consistent find solution by substitution.
- Find  $p$  for coincidental lines  $12x + py = p$ ,  $px + 3y - p + 3 = 0$

## Section 3

- Solve graphically and find vertices of triangle formed  $x = y$ ,  $5y - x = 14$  and  $2x + y = 1$
- The cost of 3 kg oranges and 5 kg grapes on a day was Rs 340. After a week 2 kg oranges and 1 kg grapes cost Rs 110. Represent this algebraically and geometrically.
- 4 boys and 10 men can finish a work in 2 days, while 6 boys and 12 men can finish it in  $1\frac{1}{2}$  days. Find the time taken by 1 boy and 1 man together to finish work.

## Section 4

- Points A and B are 90 km apart from each other on a highway. A car starts from A and another from B at the same time. If they go in same direction they meet in 9 hours, and if they go in opposite direction they meet in  $\frac{9}{7}$  hours. Find their speeds.
- Anubhav travels 600 km to his home partly by train and partly by car. He takes 8 hours, if he travels 120 km by train and the remaining distance by car. If he travels 200 km by train and the remaining distance by car, he takes 20 minutes longer. Find

the speed of the train and the car separately.

16. A part of monthly hostel charges is fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days she has to pay Rs 1000 as Hostel charges where as a student B, who take food for 26 days, pays Rs 1180 as Hostel charges. Find Hostel charges for 17 days.

Q 1-7 1 mark each, Q 8 - 10 2 marks each, Q 11-13 3 marks each Q 14-16 6 marks.

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