



Laying the foundation of lifelong success

CHAPTER 3

Pair Of Linear Equations In Two Variables

(Previous Years' Questions)

3 – Markers

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1. Use graphical method to solve the system of linear equations: $y = -3$ and $x + 2y = 4$. (2026)

 2. (a) Check graphically whether the pair of linear equations $2x + 3y = 12$; $5x - 3y = 9$ is consistent. If so, solve it graphically.

OR

(b) A 2-digit number is obtained by either multiplying the sum of the digits by 7 and then adding 3 or by multiplying the difference of the digits by 19 and then subtracting 1. It is given that the digit at ten's place is greater than that of unit's place. Find the 2-digit number. (Comptt., 2025)

 3. The monthly incomes of two persons are in the ratio 9 : 7 and their monthly expenditures are in the ratio 4 : 3. If each saved ₹ 5,000, express the given situation algebraically as a system of linear equations in two variables. Hence, find their respective monthly incomes. (2025)

 4. The perimeter of a rectangle is 70 cm. The length of the rectangle is 5 cm more than twice is breadth.

Express the given situation as a system of linear equations in two variables and hence solve it. **(2025)**

5. Solve the following system of equations graphically:

$$2x - y - 2 = 0$$

$$-4x + y + 4 = 0$$

Also, find the absolute difference between the ordinates of the points where given lines cut y-axis.

(2025)

6. Solve the following system of equations graphically:

$$2x + 3y = 6$$

$$x + y - 1 = 0$$

Also, find the sum of ordinates of the points where given lines meet y-axis.

(2025)

7. Check whether the following pair of equations is consistent or not. If consistent, solve graphically

$$x + 3y = 6$$

$$3y - 2x = -12$$

(2025)

8. Check whether the following system of equations is consistent or not.

If consistent, solve graphically

$$2x - y - 4 = 0; x - 2y + 4 = 0.$$

(2025)

9. Check whether the given system of equations is consistent or not. If consistent, solve graphically.

$$x - 2y = 0$$

$$2x + y = 0$$

(2025)

10. (a) The sum of the digits of a 2-digit number is 12.

Seven times the number is equal to four times the number obtained by reversing the order of the digits. Find the number.

OR

- (b) Find the values of x and y from the following pair of linear equations:

$$62x + 43y = 167$$

$$43x + 62y = 148$$

(Comptt., 2024)

11. Three years ago, Rashmi was thrice as old as Nazma. Ten years later, Rashmi will be twice as old as Nazma. How old are Rashmi and Nazma now?

(2024)

12. In a chemistry lab, there is some quantity of 50% acid solution and some quantity of 25% acid solution. How much of each should be mixed to make 10 litres of 40% acid solution ?

(2024)

13. The sum of the digits of a 2-digit number is 14. The number obtained by interchanging its digits exceeds the given number by 18. Find the number. **(2024)**
14. Solve the following system of linear equations graphically:
$$x - y + 1 = 0$$
$$x + y = 5.$$
 (2024)
15. Rehana went to a bank to withdraw ₹ 2,000. She asked the cashier to give her ₹ 50 and ₹ 100 notes only. Rehana got 25 notes in all. Find how many notes of ₹ 50 and ₹ 100 did she receive. **(2024)**
16. A man starts his job with a certain monthly salary and earns a fixed increment every year. If his salary was ₹ 15,000 after 4 years of service and ₹ 18,000 after 10 years of service, what was his starting salary and what was the annual increment? **(2024)**
17. 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 ₹ 1,500 as hostel charges

while another student B, who takes food for 26 days, pays ₹ 1,800. Find the fixed charges and the cost of food. **(2024)**

18. The age of the father is twice the sum of the ages of his two children. After 20 years, his age will be equal to the sum of the ages of his children. Find the present age of the father. **(Comptt., 2023)**

19. Draw the graph of the following equations: $x + y = 5$, $x - y = 5$ and
(i) find the solution of the equations from the graph.
(ii) shade the triangular region formed by the lines and the y -axis. **(Comptt., 2023)**

20. In a ΔABC , $\angle A = x^\circ$, $\angle B = (3x - 2)^\circ$ and $\angle C = y^\circ$. Also, $\angle C - \angle B = 9^\circ$. Determine the three angles of the triangle. **(Comptt., 2023)**

21. Solve the following pair of equations graphically:

$$x + 3y = 6, 2x + 3y = 12$$

Also, find the area of the triangle formed by the lines representing the equations with y -axis.

(Comptt., 2023)

22. Half of the difference between two numbers is 2. The sum of the greater number and twice the smaller number is 13. Find the numbers. **(2023)**

23. Jaya scored 40 marks in a test getting 3 marks for each correct answer and losing 1 mark for each incorrect answer. Had 4 marks being awarded for each correct answer and 2 marks were deducted for each incorrect answer then Jaya again would have scored 40 marks. How many questions were there in the Test? **(2023)**

24. (a) If the system of linear equations
 $2x + 3y = 7$ and $2ax + (a + b)y = 28$
have infinite number of solutions, then find the values of ' a ' and ' b '.

OR

(b) If $217x + 131y = 913$ and $131x + 217y = 827$
then solve the equations for the values of x and y .

(2023)

25. Two people are 16 km apart on a straight road. They start walking at the same time. If they walk towards each other with different speeds, they will meet in 2 hours. Had they walked in the same direction with

same speeds as before, they would have met in 8 hours. Find their walking speeds. **(2023)**

26. A 2-digit number is seven times the sum of its digits. The number formed by reversing the digits is 18 less than the given number. Find the given number. **(2023)**

27. A fraction becomes $\frac{1}{3}$ when 1 is subtracted from the numerator. It becomes $\frac{1}{4}$ when 8 is added to the denominator. Find the fraction. **(2023)**

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