



# INDIAN SCHOOL AL WADI AL KABIR

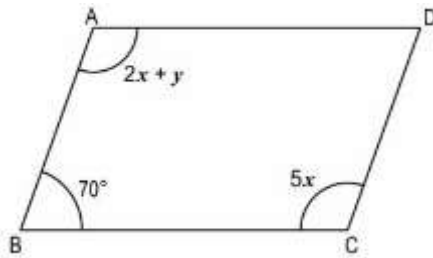
**Class X**, Mathematics

## Worksheet- Pair of Linear Equations in Two Variables

06 - 04 - 2026

### Questions of 2 Marks each.

1. Shown below is a parallelogram with  $\angle ABC = 70^\circ$ . Find the values of  $x$  and  $y$ . (CFQ)



2. Solve for  $x$  and  $y$ :

$$\sqrt{2}x + \sqrt{3}y = 5 \text{ and}$$

$$\sqrt{3}x - \sqrt{8}y = -\sqrt{6}$$

3. Given the linear equation  $3x + 4y = 9$ . Write another linear equation in these two variables such that the geometrical representation of the pair so formed is: (1) intersecting lines (2) coincident lines.

4. In a competitive examination, one mark is awarded for each correct answer while  $\frac{1}{2}$  mark is deducted for every wrong answer. Jayanti answered 120 questions and got 90 marks. How many questions did she answer correctly?

### Questions of 3 Marks each.

5. The four-wheeler parking fees at a metro station is charged 2 parts – a fixed charge ₹  $x$  up to 2 hours and ₹  $y$  for every subsequent hour.

i) Murli parked his car for 6 hours and paid ₹ 110. Aparna parked her car for 13 hours and paid ₹ 250. Frame a pair of linear equations representing the context and find the fixed charge and the subsequent charge per hour.

ii) Amish parked his car at the station from 8 am to 3 pm. Find the amount Amish must pay as the parking charge. (CFQ)

6. 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 the lines cut  $y$  – axis.

7.	Two numbers, $x$ and $y$ ( $x > y$ ), have a difference of 6 and an average of 4. Determine the values of the two numbers.
8.	The sum of a two-digit number and another formed by reversing its digits is 99. Five added to the number yields 4 less than 6 times the sum of its digits. Find the number.
9.	Places A and B are 80 km apart from each other on a highway. A car starts from A and another from B at the same time. If they move in same direction they meet in 8 hours and if they move towards each other they meet in 1 hour 20 minutes. Find the speed of cars.
10.	A mother is three times as old as her son. After 12 years her age will be twice as that of the age of her son. Find their present ages.
<b>Questions of 5 Marks each.</b>	
11.	Susan invested certain amount of money in two schemes A and B, which offer interest at the rate of 8% per annum and 9% per annum, respectively. She received ₹ 1860 as annual interest. However, had she interchanged the amount of investments in the two schemes, she would have received ₹ 20 more as annual interest. How much money did she invest in each scheme?(CFQ)
12.	There are some students in the two examination halls A and B. To make the number of students equal in each hall, 10 students are sent from A to B. But if 20 students are sent from B to A, the number of students in A becomes double the number of students in B. Find the number of students in the two halls.
<b>Case Study Based(4 marks)</b>	
13.	<p>A school is organizing a grand cultural event to show the talent of its students. To accommodate the guests, the school plans to rent chairs and tables from a local supplier. It finds that rent for each chair is ₹ 50 and for each table is ₹ 200. The school spends ₹ 30,000 for renting the chairs and tables. Also, the total number of items (chairs and tables) rented are 300.</p> <p>Based on the above situation, answer the following questions:</p> <p>(i) Taking length as <math>x</math> m and breath as <math>y</math> m, find the pair of linear equations representing the above situation.</p> <p>(ii) (a) Find the number of chairs and number of tables rented by the school.</p> <p style="text-align: center;"><b>OR</b></p> <p>(b) If the school wants to spend a maximum of ₹ 27,000 on 300 items (tables and chairs), then find the number of chairs and tables it can rent.</p> <p>(iii) What is maximum number of tables that can be rented in ₹ 30,000 if no chairs are rented ?</p>



<b>Answers</b>							
<b>1</b>		<b>2</b>	$x = \sqrt{2}$ and $y = \sqrt{3}$	<b>4</b>	100	<b>5</b>	(i) $x + 4y = 110$ ; $x + 11y = 250$ ; ₹30, ₹20;  (ii) ₹130
<b>6</b>	$x = 1, y = 0$  Absolute difference = 2 (consider - 2 also)	<b>7</b>	7, 1	<b>8</b>	45	<b>9</b>	35 km/hr, 25 km/hr
<b>10</b>	36 yrs, 12 yrs	<b>11</b>	₹ 12000 and ₹ 10000	<b>12</b>	100, 80		
<b>13</b>	(i) $x + y = 300$ ; $x + 4y = 600$ (ii) (a) 200 and 100 <b>OR</b> (b) 220 and 80 (iii) 150						