NCERT Solutions Class 10 Maths
Chapter 3: Pair of Linear Equations in Two Variables
Exercise 3.1

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Quick Summary: In NCERT Solutions Class 10 Maths Chapter 3 Exercise 3.1, students learn the graphical method for solving pairs of linear equations in two variables. This exercise covers the consistency of linear equations, ratio comparison tests, and graphical representation techniques which are essential for CBSE board exams and form the foundation for advanced algebraic concepts.

Key Takeaways:

- Ratio test for consistency: Compare (a_1)/(a_2), (b_1)/(b_2), and (c_1)/(c_2) to determine if equations are consistent, inconsistent, or dependent
- Graphical interpretation: Intersecting lines give unique solutions, parallel lines have no solution, and coincident lines have infinite solutions
- Translation skills: Converting word problems into mathematical equations using variables and linear relationships
- Plotting techniques: Finding two points for each line and determining solution by graphical intersection method

Complete Solutions

Question 1

QUESTION

Form the pair of linear equations in the following problems, and find their solutions graphically.

(i) 10 students of Class X took part in a Mathematics quiz. If the number of girls is 4 more than the number of boys, find the number of boys and girls who took part in the quiz.

(ii) 5 pencils and 7 pens together cost ₹ 50, whereas 7 pencils and 5 pens together cost ₹ 46. Find the cost of one pencil and that of one pen.

SOLUTION

Form variables, translate the sentences into two linear equations, and plot two points for each line. Where the lines meet gives the solution: girls/boys in (i) and rupee costs in (ii).

ANSWER

(i) Forming the equations

Let x be the number of girls and y be the number of boys.

Total students are 10, so

x + y = 10.

The number of girls is 4 more than the number of boys, so

x = y + 4 \Rightarrow x - y = 4.

Thus the required pair of linear equations is

x + y = 10, \qquad x - y = 4.

Solving graphically (conceptual steps)

1. For x + y = 10, choose convenient values:

x = 0 \Rightarrow y = 10; x = 10 \Rightarrow y = 0. Plot (0,10) and (10,0) and draw the line.

2. For x - y = 4, choose convenient values:

x = 4 \Rightarrow y = 0; x = 6 \Rightarrow y = 2. Plot (4,0) and (6,2) and draw the line.

3. The two lines intersect at the point (7,3), obtained either from the graph or by solving the equations algebraically.

So x = 7, y = 3.

Conclusion

Girls = 7 and Boys = 3.

(ii) Forming the equations

Let x be the cost (in rupees) of one pencil and y be the cost (in rupees) of one pen.

Cost of 5 pencils and 7 pens is ₹ 50:

$5x + 7y = 50$.

Cost of 7 pencils and 5 pens is ₹ 46:

$7x + 5y = 46$.

Thus the required pair of equations is

$5x + 7y = 50, \qquad 7x + 5y = 46$.

Solving graphically (conceptual steps)

1. For $5x + 7y = 50$, take convenient pairs: if $x = 5$, then $25 + 7y = 50 \Rightarrow y = (25)/(7)$; if $y = 5$, then $5x + 35 = 50 \Rightarrow x = 3$. Plot two such points (for easy graph use integer point (3,5)) and draw the line.

2. For $7x + 5y = 46$, take convenient pairs: if $x = 4$, then $28 + 5y = 46 \Rightarrow y = (18)/(5)$; if $y = 4$, then $7x + 20 = 46 \Rightarrow x = (26)/(7)$. Plot two points and draw the line.

3. The two lines intersect at (3,5), which can also be verified algebraically by solving the pair:

Multiply $5x + 7y = 50$ by 7 and $7x + 5y = 46$ by 5:

$35x + 49y = 350, \quad 35x + 25y = 230$.

Subtracting, $(35x + 49y) - (35x + 25y) = 350 - 230 \Rightarrow 24y = 120 \Rightarrow y = 5$. \]

Substitute in \($5x + 7y = 50$:

$5x + 7 \times 5 = 50 \Rightarrow 5x + 35 = 50 \Rightarrow 5x = 15 \Rightarrow x = 3$.

Conclusion

Cost of one pencil = ₹ 3 and cost of one pen = ₹ 5.

Question 2

QUESTION

On comparing the ratios $\frac{a_1}{a_2}$, $\frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or are coincident.

(i) $5x - 4y + 8 = 0; 7x + 6y - 9 = 0$

(ii) $9x + 3y + 12 = 0; 18x + 6y + 24 = 0$

(iii) $6x - 3y + 10 = 0; 2x - y + 9 = 0$

SOLUTION

Compare the ratios , , and . Unequal first two → intersect; first two equal but not the third → parallel; all equal → coincident. Apply this test to each pair above.

ANSWER

For a pair of equations in two variables

$$a_1x + b_1y + c_1 = 0, \quad a_2x + b_2y + c_2 = 0,$$

the nature of the pair of lines is decided as follows:

- If $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$, the lines intersect at a single point.
- If $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$, the lines are parallel and distinct.
- If $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$, the lines are coincident.

(i) $5x - 4y + 8 = 0$ and $7x + 6y - 9 = 0$

Here

$a_1 = 5, b_1 = -4, c_1 = 8; a_2 = 7, b_2 = 6, c_2 = -9.$

Compute the ratios:

$$\frac{a_1}{a_2} = \frac{5}{7}, \quad \frac{b_1}{b_2} = \frac{-4}{6} = -\frac{2}{3}, \quad \frac{c_1}{c_2} = \frac{8}{-9} = -\frac{8}{9}.$$

Clearly $\frac{5}{7} \neq -\frac{2}{3}$. Hence

The two lines intersect at a point.

(ii) $9x + 3y + 12 = 0$ and $18x + 6y + 24 = 0$

Here

$a_1 = 9, b_1 = 3, c_1 = 12; a_2 = 18, b_2 = 6, c_2 = 24.$

Ratios:

$\frac{a_1}{a_2} = \frac{9}{18} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{3}{6} = \frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{12}{24} = \frac{1}{2}.$

All three ratios are equal, so

The two lines are coincident.

(iii) $6x - 3y + 10 = 0$ and $2x - y + 9 = 0$

Here

$a_1 = 6, b_1 = -3, c_1 = 10; a_2 = 2, b_2 = -1, c_2 = 9.$

Ratios:

$\frac{a_1}{a_2} = \frac{6}{2} = 3, \quad \frac{b_1}{b_2} = \frac{-3}{-1} = 3, \quad \frac{c_1}{c_2} = \frac{10}{9}.$

We have $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ but this common value is not equal to $\frac{c_1}{c_2}$. Therefore

The two lines are parallel.

Question 3

QUESTION

On comparing the ratios $\frac{a_1}{a_2}$, $\frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether the following pairs of linear equations are consistent or inconsistent.

(i) $3x + 2y = 5$; $2x - 3y = 7$

(ii) $2x - 3y = 8$; $4x - 6y = 9$

(iii) $\frac{3}{2}x + \frac{5}{3}y = 7$; $9x - 10y = 14$

(iv) $5x - 3y = 11$; $-10x + 6y = -22$

(v) $\frac{4}{3}x + 2y = 8$; $2x + 3y = 12$

SOLUTION

Apply the same ratio test as in Question 2: intersecting ratios give a unique solution (consistent), equal first two but different third gives parallel lines (inconsistent), and all equal gives coincident lines (infinitely many solutions).

ANSWER

For a pair of linear equations in two variables

$a_1x + b_1y + c_1 = 0, \quad a_2x + b_2y + c_2 = 0,$

we have:

- If $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$: lines intersect; the pair is **consistent** with a unique solution.
- If $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$: lines are parallel; the pair is **inconsistent** (no solution).
- If $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$: lines are coincident; the pair is **consistent** with infinitely many solutions.

(i) $3x + 2y = 5$ and $2x - 3y = 7$

Write them in standard form $a_1x + b_1y + c_1 = 0$:

$3x + 2y - 5 = 0$ and $2x - 3y - 7 = 0$.

Here $a_1 = 3, b_1 = 2, c_1 = -5; a_2 = 2, b_2 = -3, c_2 = -7$.

Ratios:

$\frac{a_1}{a_2} = \frac{3}{2}, \quad \frac{b_1}{b_2} = \frac{2}{-3} = -\frac{2}{3}.$

Since $\frac{3}{2} \neq -\frac{2}{3}$, the lines intersect at a point.

The system is consistent (unique solution).

(ii) $2x - 3y = 8$ and $4x - 6y = 9$

Standard form:

$2x - 3y - 8 = 0$ and $4x - 6y - 9 = 0$.

$a_1 = 2, b_1 = -3, c_1 = -8; a_2 = 4, b_2 = -6, c_2 = -9$.

Ratios:

$\frac{a_1}{a_2} = \frac{2}{4} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{-3}{-6} = \frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{-8}{-9} = \frac{8}{9}$.

We have $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ but this common value is not equal to $\frac{c_1}{c_2}$. Therefore the lines are parallel, so

The system is inconsistent (no solution).

(iii) $\frac{3}{2}x + \frac{5}{3}y = 7$ and $9x - 10y = 14$

First equation: multiply by 6 to clear denominators:

$6 \left(\frac{3}{2}x + \frac{5}{3}y \right) = 6 \cdot 7 \Rightarrow 9x + 10y = 42$.

So the pair becomes $9x + 10y - 42 = 0$ and $9x - 10y - 14 = 0$.

Here $a_1 = 9, b_1 = 10, c_1 = -42; a_2 = 9, b_2 = -10, c_2 = -14$.

Ratios:

$\frac{a_1}{a_2} = \frac{9}{9} = 1, \quad \frac{b_1}{b_2} = \frac{10}{-10} = -1$.

Since $1 \neq -1$, the lines intersect at one point.

The system is consistent (unique solution).

(iv) $5x - 3y = 11$ and $-10x + 6y = -22$

Standard form:

$5x - 3y - 11 = 0; -10x + 6y + 22 = 0$.

Here $a_1 = 5, b_1 = -3, c_1 = -11; a_2 = -10, b_2 = 6, c_2 = 22$.

Ratios:

$\frac{a_1}{a_2} = \frac{5}{-10} = -\frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{-3}{6} = -\frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{-11}{22} = -\frac{1}{2}$.

All three ratios are equal; hence the two equations represent the same line.

The system is consistent with infinitely many solutions.

(v) $\frac{4}{3}x + 2y = 8$ and $2x + 3y = 12$

First equation: multiply by 3:

$4x + 6y = 24 \Rightarrow 4x + 6y - 24 = 0$.

Second equation: $2x + 3y - 12 = 0$.

Thus $a_1 = 4, b_1 = 6, c_1 = -24; a_2 = 2, b_2 = 3, c_2 = -12$.

Ratios:

$\frac{a_1}{a_2} = \frac{4}{2} = 2, \quad \frac{b_1}{b_2} = \frac{6}{3} = 2, \quad \frac{c_1}{c_2} = \frac{-24}{-12} = 2.$

All three are equal, so the lines are coincident.

The system is consistent with infinitely many solutions.

Question 4

QUESTION

Which of the following pairs of linear equations are consistent or inconsistent? If consistent, obtain the solution graphically.

(i) $x + y = 5$; $2x + 2y = 10$

(ii) $x - y = 8$; $3x - 3y = 16$

(iii) $2x + y - 6 = 0$; $4x - 2y - 4 = 0$

(iv) $2x - 2y - 2 = 0$; $4x - 4y - 5 = 0$

SOLUTION

Use the ratio test to label each pair as intersecting, parallel, or coincident. For intersecting pairs, either plot the lines or solve one equation for a variable and substitute to find the intersection point.

ANSWER

Use the criteria based on (a_1)/(a_2), (b_1)/(b_2), (c_1)/(c_2).

(i) $x + y = 5$ and $2x + 2y = 10$

Second equation simplifies by dividing through by 2:

2x + 2y = 10 \Rightarrow x + y = 5.

Thus both equations represent the same line. Here

(a_1)/(a_2) = (1)/(2), \quad (b_1)/(b_2) = (1)/(2), \quad (c_1)/(c_2) = (-5)/(-10) = (1)/(2).

All ratios are equal, so the pair is **consistent** with infinitely many solutions.

Graphical solution: Both equations give the same line $x + y = 5$. Every point on this line, such as (0,5), (5,0), (2,3), is a solution.

(ii) $x - y = 8$ and $3x - 3y = 16$

Write in standard form: $x - y - 8 = 0$; $3x - 3y - 16 = 0$.

Ratios:

(a_1)/(a_2) = (1)/(3), \quad (b_1)/(b_2) = (-1)/(-3) = (1)/(3), \quad (c_1)/(c_2) = (-8)/(-16) = (1)/(2).

We have (a_1)/(a_2) = (b_1)/(b_2) ≠ (c_1)/(c_2); therefore the lines are parallel and distinct.

The pair is inconsistent (no solution).

(iii) $2x + y - 6 = 0$ and $4x - 2y - 4 = 0$

Rewrite the second equation:

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

Here $a_1 = 2, b_1 = 1, c_1 = -6; a_2 = 4, b_2 = -2, c_2 = -4$.

Ratios:

$\frac{a_1}{a_2} = \frac{2}{4} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{1}{-2} = -\frac{1}{2}$.

Since $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$, the lines intersect at a unique point, so the pair is **consistent**.

Solving algebraically for the point of intersection (which will match the graphical solution):

From $2x + y - 6 = 0$, $y = 6 - 2x$.

Substitute into $4x - 2y - 4 = 0$:

$4x - 2(6 - 2x) - 4 = 0 \Rightarrow 4x - 12 + 4x - 4 = 0 \Rightarrow 8x - 16 = 0 \Rightarrow x = 2$.

Then $y = 6 - 2x = 6 - 4 = 2$.

Graphically, the lines intersect at $(2,2)$.

(iv) $2x - 2y - 2 = 0$ and $4x - 4y - 5 = 0$

Here $a_1 = 2, b_1 = -2, c_1 = -2; a_2 = 4, b_2 = -4, c_2 = -5$.

Ratios:

$\frac{a_1}{a_2} = \frac{2}{4} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{-2}{-4} = \frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{-2}{-5} = \frac{2}{5}$.

Since $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$, the lines are parallel and distinct.

The pair is inconsistent (no solution).

Question 5

QUESTION

Half the perimeter of a rectangular garden, whose length is 4 m more than its width, is 36 m. Find the dimensions of the garden.

SOLUTION

Translate the wording into two equations: one from “length is 4 m more” and one from the given half-perimeter. Substitute the first into the second to solve for width, then back-solve for length.

ANSWER

Let the length of the rectangular garden be l metres and the width be b metres.

Given that the length is 4 m more than the width:

l = b + 4.

Perimeter of a rectangle is 2(l + b). Half the perimeter is therefore l + b.

It is given that half the perimeter is 36 m:

l + b = 36.

So we have the system

l = b + 4, \qquad l + b = 36.

Substitute l = b + 4 in l + b = 36:

(b + 4) + b = 36 \Rightarrow 2b + 4 = 36 \Rightarrow 2b = 32 \Rightarrow b = 16.

Then

l = b + 4 = 16 + 4 = 20.

Therefore, the dimensions of the garden are: length 20 m and breadth 16 m.

Question 6

QUESTION

Given the linear equation $2x + 3y - 8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is:

(i) intersecting lines

(ii) parallel lines

(iii) coincident lines

SOLUTION

Use coefficient ratios: change them so and differ for intersecting lines, keep them equal but alter the constant for parallel lines, and multiply the whole equation by a constant for coincident lines.

ANSWER

The given equation is

$2x + 3y - 8 = 0.$

Its coefficients are $a_1 = 2$, $b_1 = 3$, $c_1 = -8$.

(i) Intersecting lines

For intersecting lines, we need

$\frac{a_1}{a_2} \neq \frac{b_1}{b_2}.$

Take another equation, for example

$3x + 2y - 7 = 0.$

Here $a_2 = 3$, $b_2 = 2$. Then

$\frac{a_1}{a_2} = \frac{2}{3}, \quad \frac{b_1}{b_2} = \frac{3}{2}.$

Since these ratios are unequal, the two lines intersect at a unique point.

(ii) Parallel lines

For parallel but distinct lines, we require

$\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}.$

Choose an equation with proportional a and b but different constant term. Multiply the whole given equation by 2 and change the constant term:

$4x + 6y - 16 = 0 \quad \text{(same ratios as original)}.$

Now $a_2 = 4$, $b_2 = 6$, $c_2 = -16$. We have

$$\frac{a_1}{a_2} = \frac{2}{4} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{3}{6} = \frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{-8}{-16} = \frac{1}{2}.$$

To make them distinct, keep a_2, b_2 proportional but alter c_2. One convenient choice shown in the textbook is

$$2x + 3y - 12 = 0.$$

Here

$$\frac{a_1}{a_2} = \frac{2}{2} = 1, \quad \frac{b_1}{b_2} = \frac{3}{3} = 1, \quad \frac{c_1}{c_2} = \frac{-8}{-12} = \frac{2}{3}.$$

Thus $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$, so the two lines are parallel and distinct.

(iii) Coincident lines

For coincident lines, all three ratios must be equal:

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}.$$

Take an equation which is a non-zero multiple of the given equation, for example multiply by 2:

$$4x + 6y - 16 = 0.$$

Now

$$\frac{a_1}{a_2} = \frac{2}{4} = \frac{1}{2}, \quad \frac{b_1}{b_2} = \frac{3}{6} = \frac{1}{2}, \quad \frac{c_1}{c_2} = \frac{-8}{-16} = \frac{1}{2}.$$

All three are equal, so the two equations represent the same line and are coincident.

A set of acceptable answers is therefore:

(i) $3x + 2y - 7 = 0$ (intersecting with the given line),

(ii) $2x + 3y - 12 = 0$ (parallel to the given line),

(iii) $4x + 6y - 16 = 0$ (coincident with the given line).

Question 7

QUESTION

Draw the graphs of the equations x - y + 1 = 0 and 3x + 2y - 12 = 0. Determine the coordinates of the vertices of the triangle formed by these lines and the x-axis, and shade the triangular region.

SOLUTION

Find where each line meets the x-axis by setting , then solve the pair simultaneously for their intersection. Those three intersection points give the triangle's vertices.

ANSWER

Consider the two lines:

L_1: x - y + 1 = 0 and L_2: 3x + 2y - 12 = 0, together with the x-axis y = 0.

1. Intersection of L_1 with the x-axis

For the x-axis, y = 0. Substitute into x - y + 1 = 0:

x - 0 + 1 = 0 \Rightarrow x + 1 = 0 \Rightarrow x = -1.

So L_1 meets the x-axis at the point (-1, 0).

2. Intersection of L_2 with the x-axis

Put y = 0 in 3x + 2y - 12 = 0:

3x + 0 - 12 = 0 \Rightarrow 3x = 12 \Rightarrow x = 4.

So L_2 meets the x-axis at (4, 0).

3. Intersection of L_1 and L_2

Solve the system

x - y + 1 = 0 \quad \textand \quad 3x + 2y - 12 = 0.

From the first equation, express y in terms of x:

x - y + 1 = 0 \Rightarrow y = x + 1.

Substitute in the second equation:

3x + 2(x + 1) - 12 = 0 \Rightarrow 3x + 2x + 2 - 12 = 0 \Rightarrow 5x - 10 = 0 \Rightarrow 5x = 10 \Rightarrow x = 2.

Then

y = x + 1 = 2 + 1 = 3.

Hence L_1 and L_2 intersect at the point (2, 3).

4. Vertices of the triangle

The triangle is bounded by the two lines and the x-axis. Its three vertices are therefore:

- Intersection of L_1 with x-axis: (-1, 0).
- Intersection of L_2 with x-axis: (4, 0).
- Intersection of L_1 and L_2: (2, 3).

Thus, the vertices of the triangle are (-1, 0), (4, 0) and (2, 3). When these points are plotted and joined, the enclosed region is the required shaded triangular region.

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📐 Key Formulas

Important Formulas for Exercise 3.1

Formula / Concept	Description
a_1x + b_1y + c_1 = 0 a_2x + b_2y + c_2 = 0	This is the general form of a pair of linear equations in two variables, x and y, where a_1, b_1, c_1, a_2, b_2, and c_2 are real numbers.
Graphical Representation	Every linear equation in two variables can be represented graphically as a straight line on a coordinate plane. Each point on the line is a solution to the equation.
Solution of a Pair of Linear Equations	The solution is the point (x, y) that satisfies both equations simultaneously. Graphically, this is the point where the two lines intersect.
Consistency Conditions (Graphical)	**Describes the nature of the solution based on the graphical representation of the two lines.**
Intersecting Lines	If the two lines intersect at a single point, the pair of equations has a unique solution. This is a consistent pair of equations.

Formula / Concept	Description
Parallel Lines	If the two lines are parallel, they never intersect. Therefore, the pair of equations has no solution. This is an inconsistent pair of equations.
Coincident Lines	If the two lines are coincident (one line lies on top of the other), there are infinitely many solutions. This is a dependent and consistent pair of equations.
Consistency Conditions (Algebraic)	**Describes the nature of the solution by comparing the ratios of the coefficients of the equations.**
$(a_1)/(a_2) \neq (b_1)/(b_2)$	The condition for a pair of linear equations to have a unique solution (intersecting lines). The system is consistent.
$(a_1)/(a_2) = (b_1)/(b_2) \neq (c_1)/(c_2)$	The condition for a pair of linear equations to have no solution (parallel lines). The system is inconsistent.
$(a_1)/(a_2) = (b_1)/(b_2) = (c_1)/(c_2)$	The condition for a pair of linear equations to have infinitely many solutions (coincident lines). The system is dependent and consistent.

❓ Top FAQs

Q1. How many questions are in NCERT Solutions Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables Exercise 3.1?

Exercise 3.1 of NCERT Solutions Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables contains exactly 7 questions. These questions focus on the graphical method of solving linear equations and checking the consistency of linear equations in two variables for CBSE board exam 2025-26.

Q2. Where can I download free PDF of NCERT Solutions for Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables Exercise 3.1?

You can download the free PDF of NCERT Solutions for Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables Exercise 3.1 from the official NCERT website or various educational platforms offering step by step solutions. These PDFs are updated according to the latest CBSE syllabus 2025-26 and include detailed graphical representations for all 7 questions.

Q3. How many marks does Pair of Linear Equations in Two Variables carry in CBSE Class 10 board exam 2025-26?

Pair of Linear Equations in Two Variables (Chapter 3) carries approximately 6 marks in CBSE Class 10 Maths board exam 2025-26 under Unit II - Algebra. The marks are shared with other algebra topics, and questions from Exercise 3.1 focusing on graphical methods and consistency of linear equations are frequently asked in the examination.

Q4. Which is the most difficult question in Exercise 3.1 of NCERT Solutions Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables?

Questions 6 and 7 of Exercise 3.1 in NCERT Solutions Class 10 Maths Chapter 3 Pair of Linear Equations in Two Variables are considered most challenging as they involve determining the consistency of equations algebraically. These questions require understanding of graphical representation and checking for unique, infinitely many, or no solutions for CBSE board exam 2025-26 preparation.

Q5. What is Consistency of Linear Equations explained in NCERT Solutions Class 10 Maths Chapter 3 Exercise 3.1?

Consistency of Linear Equations in NCERT Solutions Class 10 Maths Chapter 3 Exercise 3.1 refers to determining whether a pair of linear equations has a solution or not. A consistent system has at least one solution (intersecting or coincident lines), while an inconsistent system has no solution (parallel lines), which is explained through graphical method in the step by step solutions.

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