

# NCERT Solutions Class 9 Maths

## Chapter 4: Linear Equations in Two Variables

### EXERCISE 4.1

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#### Document Information:

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**Quick Summary:** In NCERT Solutions Class 9 Maths Chapter 4 Exercise 4.1, students learn the fundamentals of linear equations in two variables and their solutions. This exercise covers identifying linear equations in the standard form  $ax + by + c = 0$  and finding their solutions, which are essential building blocks for coordinate geometry and algebra in CBSE Class 9 exams.

#### Key Takeaways:

- A linear equation in two variables has the general form  $ax + by + c = 0$  where  $a$  and  $b$  are not both zero
- Every solution of a linear equation represents a point  $(x, y)$  that satisfies the equation
- Linear equations have infinitely many solutions that form a straight line when plotted on a graph
- Converting word problems into linear equations helps solve real-life scenarios involving two unknown quantities

## Complete Solutions

### Question 1

#### QUESTION

The cost of a notebook is twice the cost of a pen. Write a linear equation in two variables to represent this statement. (Take the cost of a notebook to be ₹ $x$  and that of a pen to be ₹ $y$ .)

#### SOLUTION

Let notebook cost be  $x$  and pen cost be  $y$ . The statement says notebook cost is twice pen cost, so

Move all terms to one side to match :

This is linear because the highest power of  $x$  and  $y$  is 1.

#### ANSWER

$$x - 2y = 0$$

## Question 2

### QUESTION

Express the following linear equations in the form  $ax + by + c = 0$  and indicate the values of  $a$ ,  $b$ ,  $c$  in each case:

- (i)  $2x + 3y = 9.35$
- (ii)  $x - (y)/5 - 10 = 0$
- (iii)  $-2x + 3y = 6$
- (iv)  $x = 3y$
- (v)  $2x = -5y$
- (vi)  $3x + 2 = 0$
- (vii)  $y - 2 = 0$
- (viii)  $5 = 2x$

### SOLUTION

Rewrite each equation so it matches . Identify with the coefficient of , with the coefficient of , and as the constant term.

(i) Move 9.35 to the left to get . Then , , .

(ii) The equation already reads . So , , .

(iii) Shift 6 left: . Here , , .

(iv) Write as . Thus , , .

(v) Bring terms together: becomes . So , , .

(vi) already fits: , , .

(vii) matches . So , , .

(viii) rearranges to or . Here , , .

### ANSWER

(i)  $2x + 3y - 9.35 = 0$ ;  $a = 2$ ,  $b = 3$ ,  $c = -9.35$

(ii)  $x - (y)/5 - 10 = 0$ ;  $a = 1$ ,  $b = -(1)/5$ ,  $c = -10$

(iii)  $-2x + 3y - 6 = 0$ ;  $a = -2$ ,  $b = 3$ ,  $c = -6$

(iv)  $x - 3y + 0 = 0$ ;  $a = 1$ ,  $b = -3$ ,  $c = 0$

(v)  $2x + 5y + 0 = 0$ ;  $a = 2$ ,  $b = 5$ ,  $c = 0$

(vi)  $3x + 0y + 2 = 0$ ;  $a = 3$ ,  $b = 0$ ,  $c = 2$

(vii)  $0x + 1y - 2 = 0$ ;  $a = 0$ ,  $b = 1$ ,  $c = -2$

$$(viii) -2x + 0y + 5 = 0; \ a = -2, \ b = 0, \ c = 5$$

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## Key Formulas

### Important Formulas for Exercise 4.1

Formula / Concept	Description
Linear Equation in Two Variables	An equation that can be put in the form $ax + by + c = 0$ , where $a$ , $b$ , and $c$ are real numbers, and $a$ and $b$ are not both zero, is called a linear equation in two variables. The variables are typically represented by $x$ and $y$ .
Standard Form	The standard form of a linear equation in two variables is $ax + by + c = 0$ . To express an equation in this form, all terms are brought to one side of the equation, leaving zero on the other side.
Solution of a Linear Equation	A pair of values, one for $x$ and one for $y$ , which satisfy the equation is called a solution. A linear equation in two variables has infinitely many solutions.
Representing Word Problems	To represent a word problem as a linear equation, first identify the unknown quantities and assign variables (e.g., $x$ and $y$ ) to them. Then, translate the statement in the problem into a mathematical equation involving these variables.

## Top FAQs

### Q1. How many questions are in NCERT Solutions Class 9 Maths Chapter 4 Linear Equations in Two Variables Exercise 4.1?

Exercise 4.1 of NCERT Solutions Class 9 Maths Chapter 4 Linear Equations in Two Variables contains exactly 2 questions. These questions focus on understanding the basic concept of linear equations in two variables and identifying solutions. Students can access step by step solutions for both questions to prepare for CBSE board exam 2025-26.

### Q2. Where can I download free PDF of NCERT Solutions for Class 9 Maths Chapter 4 Linear Equations in Two Variables Exercise 4.1?

You can download free PDF of NCERT Solutions for Class 9 Maths Chapter 4 Linear Equations in Two Variables Exercise 4.1 from the official NCERT website and various educational portals. These PDFs contain complete step by step solutions for all 2 questions in Exercise 4.1, updated as per CBSE board exam 2025-26 syllabus. The solutions are available in downloadable format for offline study.

### Q3. How many marks does Linear Equations in Two Variables carry in CBSE Class 9 Maths board exam 2025-26?

Linear Equations in Two Variables (Chapter 4) is part of Unit II - Algebra, which carries approximately 10 marks in CBSE Class 9 Maths board exam 2025-26. This weightage is shared among all algebra topics in the unit. Students should thoroughly practice NCERT Solutions Exercise 4.1 and subsequent exercises to score well in this important chapter.

### Q4. Which is the most difficult question in NCERT Solutions Exercise 4.1 of Class 9 Maths Chapter 4 Linear Equations in Two Variables?

Question 2 of NCERT Solutions Exercise 4.1 Class 9 Maths Chapter 4 Linear Equations in Two Variables is considered relatively more challenging as it requires verifying multiple solutions. Students need to substitute given values and check if they satisfy the linear equation, which requires careful calculation. Step by step solutions help students understand the verification process clearly for CBSE board exam 2025-26 preparation.

### Q5. What is Linear Equation in Two Variables in NCERT Class 9 Maths Chapter 4 Exercise 4.1?

A Linear Equation in Two Variables, as explained in NCERT Class 9 Maths Chapter 4 Exercise 4.1, is an equation of the form  $ax + by + c = 0$ , where  $a, b, c$  are real numbers and  $a, b$  are not both zero. The equation represents a straight line when plotted on a graph. NCERT Solutions for Exercise 4.1 help students identify and understand solutions of such equations for CBSE board exam 2025-26.

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