

# MATHS

## NCERT - NCERT MATHEMATICS(TAMIL ENGLISH)

### LINEAR EQUATIONS IN TWO VARIABLES

**TRY THIS**

**1.** Express the following linear equations in the form of  $ax + by + c = 0$  and indicate the

values of a, b, c in each case?

(i)  $3x + 2y = 9$  (ii)  $-2x + 3y = 6$  (iii)  $9x - 5y =$

10

(iv)  $\frac{x}{2} - \frac{y}{2} - 5 = 0$  (v)  $2x = y$



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

(i)  $3x + 2y = 9$  (ii)  $-2x + 3y = 6$  (iii)  $9x - 5y =$

10

$$(iv) \frac{x}{2} - \frac{y}{2} - 5 = 0 \quad (v) 2x = y$$



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**3.** find the solutions for the pairs of equation.

and identify the solution  $5x+3y=15$  and

$$5x+2y=10$$



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4. Take a graph paper, plot the point  $(2, 4)$ , and draw a line passing through it. Now answer the following questions.

How many such lines can be drawn?



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5. Take a graph paper, plot the point  $(2, 4)$ , and draw a line passing through it. Now answer the following questions.

Can you draw another line that passes through the point  $(2, 4)$ .



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6. Take a graph paper, plot the point  $(2, 4)$ , and draw a line passing through it. Now answer the following questions.

How many such lines can be drawn?



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7. Take a graph paper, plot the point  $(2, 4)$ , and draw a line passing through it. Now

answer the following questions.

How many such lines can be drawn?



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**8.** Take a graph paper, plot the point  $(2, 4)$ , and draw a line passing through it. Now answer the following questions.

How many linear equations in two variables exist for which  $(2, 4)$  is a solution?



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## Do This

1. (i) Draw the graph of following equations.

(a)  $x = 2$  (b)  $x = -2$  (c)  $x = 4$  (d)  $x = -4$

(ii) Are the graphs of all these equations parallel to Y-axis?

(iii) Find the distance between the graph and the Y-axis in each case



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2. (i) Draw the graph of following equations.

(a)  $x = 2$  (b)  $x = -2$  (c)  $x = 4$  (d)  $x = -4$

(ii) Are the graphs of all these equations parallel to Y-axis?

(iii) Find the distance between the graph and the Y-axis in each case



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3. (i) Draw the graph of the following equations

(a)  $y = 2$  (b)  $y = -2$  (c)  $y = 3$  (d)  $y = -3$



(ii) Are all these parallel to the X-axis?

(iii) Find the distance between the graph of the line and the X-axis in each case



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## EXERCISE 8.1

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

(i)  $8x + 5y - 3 = 0$  (ii)  $28x - 35y = -7$  (iii)  $93x =$

12 - 15y

$$(iv) 2x = -5y \quad (v) \frac{x}{3} + \frac{y}{4} = 7 \quad (vi) y = \frac{-3}{2}x$$

$$(vii) 3x+5y=12$$



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**2.** Express the following linear equation in the form of  $ax+by+c=0$  and indicate the values of a, b and c in each case.

$$(i) 8x + 5y - 3 = 0 \quad (ii) 28x - 35y = -7 \quad (iii) 93x =$$

12 - 15y

$$(iv) 2x = -5y \quad (v) \frac{x}{3} + \frac{y}{4} = 7 \quad (vi) y = \frac{-3}{2}x$$

$$(vii) 3x + 5y = 12$$



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**3.** Write each of the following in the form of  $ax + by + c = 0$  and find the values of  $a$ ,  $b$  and  $c$

$$(i) 2x = 5 \quad (ii) y - 2 = 0 \quad (iii) \frac{y}{7} = 3 \quad (iv) x = \frac{-14}{13}$$



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4. Write each of the following in the form of  $ax + by + c = 0$  and find the values of  $a$ ,  $b$  and  $c$

(i)  $2x = 5$  (ii)  $y - 2 = 0$  (iii)  $\frac{y}{7} = 3$  (iv)  $x = \frac{-14}{13}$



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5. Express the following statements as a linear equation in two variables.

The sum of two numbers is 34.



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6. Express the following statements as a linear equation in two variables.

The sum of two numbers is 34.



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7. Express the following statements as a linear equation in two variables.

The cost of a ball pen is 5 less than half the cost of a fountain pen.



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**8.** Express the following statements as a linear equation in two variables.

The cost of a ball pen is 5 less than half the cost of a fountain pen.



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**9.** Express the following statements as a linear equation in two variables.

Bhargavi got 10 more marks than double the marks of Sindhu.



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**10.** Express the following statements as a linear equation in two variables.

Bhargavi got 10 more marks than double the marks of Sindhu.



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**11.** Express the following statements as a linear equation in two variables.

The sum of two numbers is 34.



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**12.** Express the following statements as a linear equation in two variables.

The cost of a pencil is 2 and a ball point pen is 15. Sheela pays 100 for the pencils and pens she purchased.



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**13.** Express the following statements as a linear equation in two variables.

Yamini and Fatima of class IX together contributed ₹ 200/- towards the Prime Minister's Relief Fund.



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**14.** Express the following statements as a linear equation in two variables.

Yamini and Fatima of class IX together

contributed ₹ 200/- towards the Prime Minister's Relief Fund.



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**15.** Express the following statements as a linear equation in two variables.

The sum of a two digit number and the number obtained by reversing the order of its digits is 121. If the digits in unit's and ten's place are 'x' and 'y' respectively.



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**16.** Express the following statements as a linear equation in two variables.

The sum of a two digit number and the number obtained by reversing the order of its digits is 121. If the digits in unit's and ten's place are 'x' and 'y' respectively.



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## EXERCISE 8.2

**1.** Find three different solutions of the each of the following equations.

(i)  $3x + 4y = 7$  (ii)  $y = 6x$  (iii)  $2x - y = 7$

(iv)  $13x - 12y = 25$  (v)  $10x + 11y = 21$  (vi)  $x + y = 0$



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**2.** Find three different solutions of the each of the following equations.

(i)  $3x + 4y = 7$  (ii)  $y = 6x$  (iii)  $2x - y = 7$

(iv)  $13x - 12y = 25$  (v)  $10x + 11y = 21$  (vi)  $x +$

$y = 0$



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**3.** If  $(0, a)$  and  $(b, 0)$  are the solutions of the following linear equations. Find 'a' and 'b'.

(i)  $8x - y = 34$  (ii)  $3x = 7y - 21$  (iii)  $5x - 2y + 3 =$

$0$



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4. If  $(0, a)$  and  $(b, 0)$  are the solutions of the following linear equations. Find 'a' and 'b'.

(i)  $8x - y = 34$  (ii)  $3x = 7y - 21$  (iii)  $5x - 2y + 3 = 0$



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5. Check which of the following are solutions of an equation  $x + 2y = 4$ ? (Complete the table wherever necessary)

(i)  $(0, 2)$  (ii)  $(2, 0)$  (iii)  $(4, 0)$  (iv)  $(\sqrt{2}, -\sqrt{2})$

(v)  $(1, 1)$  (vi)  $(-2, 3)$



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6. Check which of the following is solution of the equation  $2x - 5y = 10$

- (i)  $(0, 2)$  (ii)  $(0, -2)$  (iii)  $(5, 0)$  (iv)  $(2\sqrt{3}, -\sqrt{3})$  (v)  $(\frac{1}{2}, 2)$



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7. Find the value of  $k$ , if  $x = 2, y = 1$  is a solution of the equation  $2x + 3y = k$ . Find two more solutions of the resultant equation.



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**8.** If  $x = 2 - \alpha$  and  $y = 2 + \alpha$  is a solution of the equation  $3x - 2y + 6 = 0$  find the value of ' $\alpha$ '. Find three more solutions of the resultant equation.



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**9.** If  $x = 1, y = 1$  is a solution of the equation  $3x + ay = 6$ , find the value of ' $a$ '.





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**10.** If  $x = 1$ ,  $y = 1$  is a solution of the equation  $3x + ay = 6$ , find the value of 'a'.



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**11.** Write five different linear equations in two variables and find three solutions for each of them?



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## EXERCISE 8.3

1. Draw the graph of each of the following linear equations.

(i)  $2y = -x + 1$  (ii)  $-x + y = 6$  (iii)  $3x + 5y = 15$

(iv)  $\frac{x}{2} - \frac{y}{3} = 3$



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2. Draw the graph of each of the following linear equations.

(i)  $2y = -x + 1$  (ii)  $-x + y = 6$  (iii)  $3x + 5y = 15$

(iv)  $\frac{x}{2} - \frac{y}{3} = 3$



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**3.** Draw the graph of each of the following linear equations and answer the following question.

(i)  $y = x$  (ii)  $y = 2x$  (iii)  $y = -2x$  (iv)  $y = 3x$  (v)  $y = -3x$

(i) Are all these equations of the form  $y = mx$ , where  $m$  is a real number?

(ii) Are all these graphs passing through the origin?

(iii) What can you conclude about these graphs?



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**4.** Draw the graph of each of the following linear equations and answer the following question.

(i)  $y = x$  (ii)  $y = 2x$  (iii)  $y = -2x$  (iv)  $y = 3x$  (v)  $y = -3x$

(i) Are all these equations of the form  $y = mx$ , where  $m$  is a real number?

(ii) Are all these graphs passing through the origin?

(iii) What can you conclude about these graphs?



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**5.** Draw the graph of the equation  $2x + 3y = 11$ . Find the value of  $y$  when  $x = 1$  from the graph.



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6. Draw the graph of the equation  $2x + 3y =$

11. Find the value of  $y$  when  $x = 1$  from the graph.



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7. Draw the graph of the equation  $y - x = 2$ .

Find from the graph

(i) the value of  $y$  when  $x = 4$

(ii) the value of  $x$  when  $y = -3$



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**8.** Draw the graph of the equation  $y - x = 2$ .

Find from the graph

(i) the value of  $y$  when  $x = 4$

(ii) the value of  $x$  when  $y = -3$



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**9.** Draw the graph of the equation  $2x + 3y = 12$ .

Find the solutions from the graph

(i) Whose y-coordinate is 3

(ii) Whose x-coordinate is -3



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**10.** Draw the graph of the equation  $2x+3y=12$ . Find the solutions from the graph

(i) Whose y-coordinate is 3

(ii) Whose x-coordinate is -3



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**11.** Draw the graph of each of the equations given below and also find the coordinates of the points where the graph cuts the coordinate axes

(i)  $6x - 3y = 12$  (ii)  $-x + 4y = 8$  (iii)  $3x + 2y + 6 = 0$



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**12.** Draw the graph of each of the equations given below and also find the coordinates of the points where the graph cuts the

coordinate axes

$$(i) 6x - 3y = 12 \quad (ii) -x + 4y = 8 \quad (iii) 3x + 2y + 6$$

$$= 0$$



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**13.** Rajiya and Preethi two students of Class IX together collected 1000 for the Prime Minister Relief Fund for victims of natural calamities. Write a linear equation and draw a graph to depict the statement.



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**14.** Gopaiah sowed wheat and paddy in two fields of total area 5000 square meters. Write a linear equation and draw a graph to represent the same?



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**15.** Gopaiah sowed wheat and paddy in two fields of total area 5000 square meters. Write a linear equation and draw a graph to represent the same?



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**16.** The force applied on a body of mass 6 kg. is directly proportional to the acceleration produced in the body. Write an equation to express this observation and draw the graph of the equation.



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**17.** The force applied on a body of mass 6 kg. is directly proportional to the acceleration produced in the body. Write an equation to express this observation and draw the graph of the equation.



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**18.** A stone is falling from a mountain. The velocity of the stone is given by  $V = 9.8t$ . Draw its graph and find the velocity of the stone '4' seconds after start.



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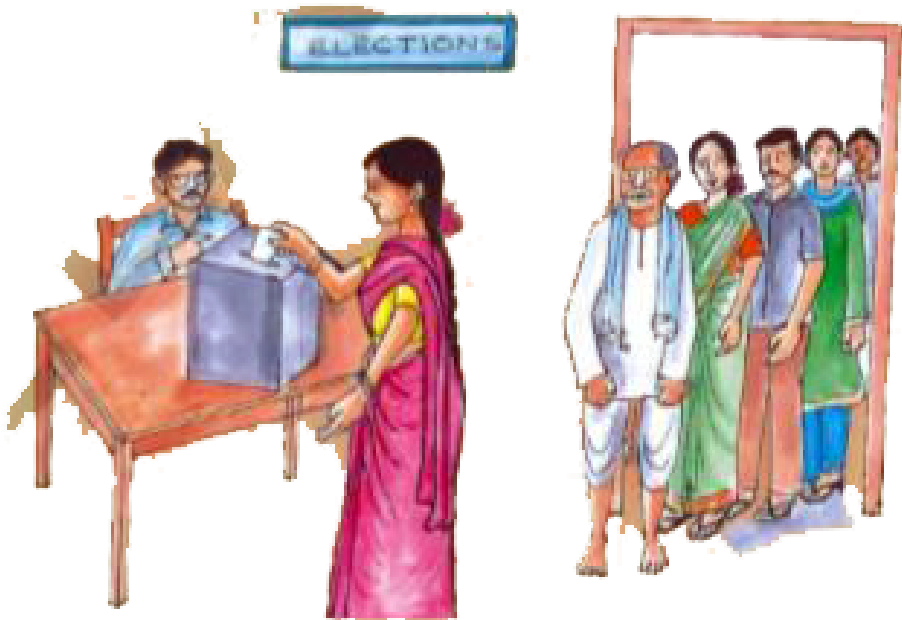
## EXERCISE 8.4

1. In a election 60% of voters cast their votes. Form an equation and draw the graph for this data. Find the following from the graph.

(i) The total number of voters, if 1200 voters cast their votes

(ii) The number votes cast, if the total number

of voters are 800



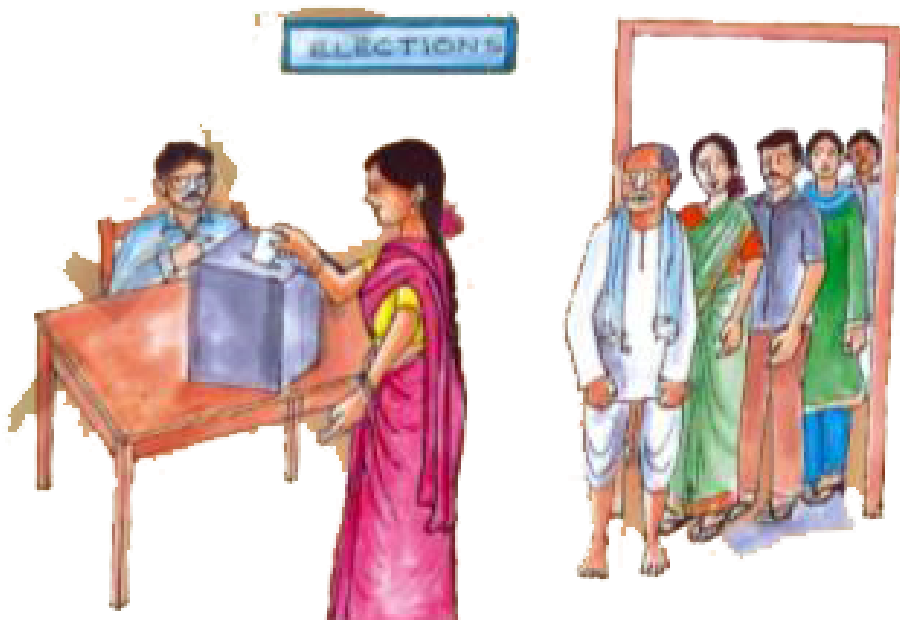
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2. In a election 60% of voters cast their votes. Form an equation and draw the graph for this data. Find the following from the

graph.

(i) The total number of voters, if 1200 voters cast their votes

(ii) The number votes cast, if the total number of voters are 800



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3. When Rupa was born, her father was 25 years old. Form an equation and draw a graph for this data. From the graph find

(i) The age of the father when Rupa is 25 years old.

(ii) Rupa's age when her father is 40 years old.



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4. When Rupa was born, her father was 25 years old. Form an equation and draw a

graph for this data. From the graph find

(i) The age of the father when Rupa is 25 years old.

(ii) Rupa's age when her father is 40 years old.



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**5.** An auto charges 15 for first kilometer and 8 each for each subsequent kilometer. For a distance of 'x' km. an amount of 'y' is paid.

Write the linear equation representing this

information and draw the graph. With the help of graph find the distance travelled if the fare paid is 55? How much would have to be paid for 7 kilometers?



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**6.** A lending library has fixed charge for the first three days and an additional charges for each day thereafter. John paid 27 for a book kept for seven days. If the fixed charges be  $x$  and subsequent per day charges be  $y$ , then

write the linear equation representing the above information and draw the graph of the same. From the graph, find fixed charges for the first three if additional charges for each day thereafter is 4. Find additional charges for each day thereafter if the fixed charges for the first three days of 7.



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7. A lending library has fixed charge for the first three days and an additional charges for

each day thereafter. John paid 27 for a book kept for seven days. If the fixed charges be  $x$  and subsequent per day charges be  $y$ , then write the linear equation representing the above information and draw the graph of the same. From the graph, find fixed charges for the first three if additional charges for each day thereafter is 4. Find additional charges for each day thereafter if the fixed charges for the first three days of 7.



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8. The parking charges of a car in Hyderabad Railway station for first two hours is 50 and 10 for each subsequent hour. Write down an equation and draw the graph. Find the following charges from the graph

(i) For three hours (ii) For six hours

(iii) How many hours did Rekha park her car if she paid 80 as parking charges?



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9. The parking charges of a car in Hyderabad Railway station for first two hours is 50 and 10 for each subsequent hour. Write down an equation and draw the graph. Find the following charges from the graph

(i) For three hours (ii) For six hours

(iii) How many hours did Rekha park her car if she paid 80 as parking charges?



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**10.** Sameera was driving a car with uniform speed of 60 kmph. Draw distance-time graph. From the graph find the distance travelled by Sameera in

(i)  $(1)\frac{1}{2}$  hours (ii) 2 hours (iii)  $(3)\frac{1}{2}$  hours



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**11.** Sameera was driving a car with uniform speed of 60 kmph. Draw distance-time graph. From the graph find the distance



travelled by Sameera in

(i)  $(1)\frac{1}{2}$  hours (ii) 2 hours (iii)  $(3)\frac{1}{2}$  hours



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**12.** The ratio of molecular weight of Hydrogen and Oxygen in water is 1:8. Set up an equation between Hydrogen and Oxygen and draw its graph. From the graph find the quantity of Hydrogen if Oxygen is 12 grams. And quantity of oxygen if hydrogen is  $\frac{3}{2}$  gms.?



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**13.** The ratio of molecular weight of Hydrogen and Oxygen in water is 1:8. Set up an equation between Hydrogen and Oxygen and draw its graph. From the graph find the quantity of Hydrogen if Oxygen is 12 grams. And quantity of oxygen if hydrogen is 32 gms.?



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**14.** In a mixture of 28 litres, the ratio of milk and water is 5:2. Set up the equation between the mixture and milk. Draw its graph. By observing the graph find the quantity of milk in the mixture.



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**15.** In a mixture of 28 litres, the ratio of milk and water is 5:2. Set up the equation between the mixture and milk. Draw its

graph. By observing the graph find the quantity of milk in the mixture.



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**16.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

Draw the graph of the above linear equation

having Celsius on x-axis and Fahrenheit on Y-axis.



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**17.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

Draw the graph of the above linear equation

having Celsius on x-axis and Fahrenheit on Y-axis.



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**18.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

If the temperature is  $30^{\circ}\text{C}$ , what is the temperature in Fahrenheit?



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**19.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

If the temperature is  $30^{\circ}\text{C}$ , what is the temperature in Fahrenheit?



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**20.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$



If the temperature is  $95^{\circ}\text{F}$ , what is the temperature in Celsius?



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**21.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

If the temperature is  $95^{\circ}\text{F}$ , what is the temperature in Celsius?



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**22.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

Is there a temperature that has numerically

the same value in both Fahrenheit and Celsius? If yes find it?



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**23.** In countries like USA and Canada temperature is measured in Fahrenheit where as in countries like India, it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius

$$F = \left(\frac{9}{5}\right)C + 32$$

Is there a temperature that has numerically

the same value in both Fahrenheit and Celsius? If yes find it?



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## EXERCISE 8.5

**1.** Give the graphical representation of the following equation.

(a) On the number line and (b) On the Cartesian plane

(i)  $x = 3$  (ii)  $y + 3 = 0$  (iii)  $y = 4$  (iv)  $2x - 9 = 0$

(v)  $3x + 5 = 0$



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2. Give the graphical representation of the following equation.

(a) On the number line and (b) On the Cartesian plane

(i)  $x = 3$  (ii)  $y + 3 = 0$  (iii)  $y = 4$  (iv)  $2x - 9 = 0$

(v)  $3x + 5 = 0$



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3. Give the graphical representation of  $2x - 11 = 0$  as an equation in

(i) one variable (ii) two variables



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4. Give the graphical representation of  $2x - 11 = 0$  as an equation in

(i) one variable (ii) two variables



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5. Solve the equation  $3x + 2 = 8x - 8$  and represent the solution on

(i) the number line (ii) the Cartesian plane



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6. Solve the equation  $3x + 2 = 8x - 8$  and represent the solution on

(i) the number line (ii) the Cartesian plane



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7. Write the equation of the line parallel to Y-axis and passing through the point

(i)  $(-4, 0)$  (ii)  $(2, 0)$  (iii)  $(3, 5)$  (iv)  $(-4, -3)$



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8. Write the equation of the line parallel to X-axis, and passing through the point

(i)  $(0, -3)$  (ii)  $(0, 4)$  (iii)  $(2, -5)$  (iv)  $(3, 4)$



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**9.** Write the equation of the line parallel to Y-axis and passing through the point

(i)  $(-4, 0)$  (ii)  $(2, 0)$  (iii)  $(3, 5)$  (iv)  $(-4, -3)$



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**10.** Write the equation of the line parallel to Y-axis and passing through the point

(i)  $(-4, 0)$  (ii)  $(2, 0)$  (iii)  $(3, 5)$  (iv)  $(-4, -3)$



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**11.** Write the equation of three lines that are

(i) parallel to the X-axis (ii) parallel to the Y-

axis



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**12.** Write the equation of three lines that are

(i) parallel to the X-axis (ii) parallel to the Y-

axis



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1. Sachin and Sehwag scored 137 runs together. Express the information in the form of an equation.

**Answer:  $x+y=137$**



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2. Sachin and Sehwag scored 137 runs together. Express the information in the form of an equation.

**Answer:  $x+y=137$**



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3. Hema's age is 4 times the age of Mary.

Write a linear equation in two variables to represent this information.

**Answer:  $x - 4y = 0$  (how?)**



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4. Hema's age is 4 times the age of Mary.

Write a linear equation in two variables to

represent this information.

**Answer:  $x - 4y = 0$  (how?)**



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**5.** A number is 27 more than the number obtained by reversing its digits. If its unit's and ten's digits are  $x$  and  $y$  respectively, write the linear equation representing the above statement.

**Answer:  $x - y + 3 = 0$**



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6. A number is 27 more than the number obtained by reversing its digits. If its unit's and ten's digits are  $x$  and  $y$  respectively, write the linear equation representing the above statement.

**Answer:  $x - y + 3 = 0$**



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7. Express each of the following equations in the form of  $ax + by + c = 0$  and write the

values of a, b and c.

$$(i) 3x + 4y = 5 \quad (ii) x - 5 = \sqrt{3}y$$

$$(iii) 3x = y \quad (iv) \frac{x}{2} + \frac{y}{2} = \frac{1}{6}$$

$$(v) 3x - 7 = 0$$

**Answer: (i) a=3, b=4, c=-5**

**(ii) a=1, b=-√3, c=-5**

**(iii) a=3, b=-1, c=-0**

**(iv) a=  $\frac{1}{2}$ , b=  $\frac{1}{2}$ , c=  $-\frac{1}{6}$**

**(v) a=3, b=0, c=-7**



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8. Express each of the following equations in the form of  $ax + by + c = 0$  and write the values of  $a$ ,  $b$  and  $c$ .

(i)  $3x + 4y = 5$  (ii)  $x - 5 = \sqrt{3}y$

(iii)  $3x = y$  (iv)  $\frac{x}{2} + \frac{y}{2} = \frac{1}{6}$

(v)  $3x - 7 = 0$

**Answer: (i)  $a=3, b=4, c=-5$**

**(ii)  $a=1, b=-\sqrt{3}, c=-5$**

**(iii)  $a=3, b=-1, c=-0$**

**(iv)  $a=\frac{1}{2}, b=\frac{1}{2}, c=-\frac{1}{6}$**

**(v)  $a=3, b=0, c=-7$**



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9. Write each of the following in the form of  $ax + by + c = 0$  and find the values of  $a$ ,  $b$  and  $c$

(i)  $x = -5$

(ii)  $y = 2$

(iii)  $2x = 3$

(iv)  $5y = -3$



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**10.** Write each of the following in the form of  $ax + by + c = 0$  and find the values of  $a$ ,  $b$  and  $c$

(i)  $x = -5$

(ii)  $y = 2$

(iii)  $2x = 3$

(iv)  $5y = -3$



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**11.** Find four different solutions of  $4x + y = 9$ .

(Complete the table wherever necessary)



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**12.** Find four different solutions of  $4x + y = 9$ .

(Complete the table wherever necessary)



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**13.** Check which of the following are solutions of an equation  $x + 2y = 4$ ?

(Complete the table wherever necessary)

(i) (0, 2) (ii) (2, 0) (iii) (4, 0) (iv)  $(\sqrt{2}, -\sqrt{2})$

(v) (1, 1) (vi) (-2, 3)



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**14.** Check which of the following are solutions of an equation  $x + 2y = 4$ ?

(Complete the table wherever necessary)

(i) (0, 2) (ii) (2, 0) (iii) (4, 0) (iv)  $(\sqrt{2}, -\sqrt{2})$

(v) (1, 1) (vi) (-2, 3)



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**15.** If  $x = 3$ ,  $y = 2$  is a solution of the equation  $5x - 7y = k$ , find the value of  $k$  and write the resultant equation.

**Answer:  $5x - 7y = 1$**



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**16.** If  $x = 3$ ,  $y = 2$  is a solution of the equation  $5x - 7y = k$ , find the value of  $k$  and write the resultant equation.

**Answer:  $5x - 7y = 1$**



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**17.** If  $x = 2k + 1$  and  $y = k$  is a solutions of the equation  $5x + 3y - 7 = 0$ , find the value of  $k$ .

**Answer:**  $k = \frac{2}{13}$



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**18.** If  $x = 2k + 1$  and  $y = k$  is a solutions of the equation  $5x + 3y - 7 = 0$ , find the value of  $k$ .

**Answer:**  $k = \frac{2}{13}$



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**19.** Draw the graph of the equation  $y - 2x = 4$  and then answer the following.

(i) Does the point  $(2, 8)$  lie on the line? Is  $(2, 8)$  a solution of the equation? Check by substituting  $(2, 8)$  in the equation.

(ii) Does the point  $(4, 2)$  lie on the line? Is  $(4, 2)$  a solution of the equation? Check algebraically also.

(iii) From the graph find three more solutions of the equation and also three more which are not solutions.



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**20.** Draw the graph of the equation  $y - 2x = 4$  and then answer the following.

(i) Does the point  $(2, 8)$  lie on the line? Is  $(2, 8)$  a solution of the equation? Check by substituting  $(2, 8)$  in the equation.

(ii) Does the point  $(4, 2)$  lie on the line? Is  $(4, 2)$  a solution of the equation? Check algebraically also.

(iii) From the graph find three more solutions of the equation and also three more which are not solutions.





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**21.** Draw the graph of the equation  $x - 2y = 3$ .

From the graph find the coordinate points 1)  $x$

$= -5$  2)  $y = 0$



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**22.** Draw the graph of the equation  $x - 2y = 3$ .

From the graph find (i) The solution  $(x, y)$

where  $x = -5$

(ii) The solution  $(x, y)$  where  $y = 0$

(iii) The solution  $(x, y)$  where  $x = 0$



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**23.** 25% of the students in a school are girls and others are boys. Form an equation and draw a graph for this. By observing the graph, answer the following :

(i) Find the number of boys, if the number of girls is 25.

(ii) Find the number of girls, if the number of

boys is 45.

(iii) Take three different values for number of boys and find the number of girls. Similarly take three different values for number of girls and find the number of boys?



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**24.** 25% of the students in a school are girls and others are boys. Form an equation and draw a graph for this. By observing the graph, answer the following :

(i) Find the number of boys, if the number of girls is 25.

(ii) Find the number of girls, if the number of boys is 45.

(iii) Take three different values for number of boys and find the number of girls. Similarly take three different values for number of girls and find the number of boys?



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**25.** For each graph given below, four linear equations are given. Out of these find the equation that represents the given graph.

(i) Equations are

(A)  $y = x$

(B)  $x + y = 0$

(C)  $y = 2x$

(D)  $2 + 3y = 7x$

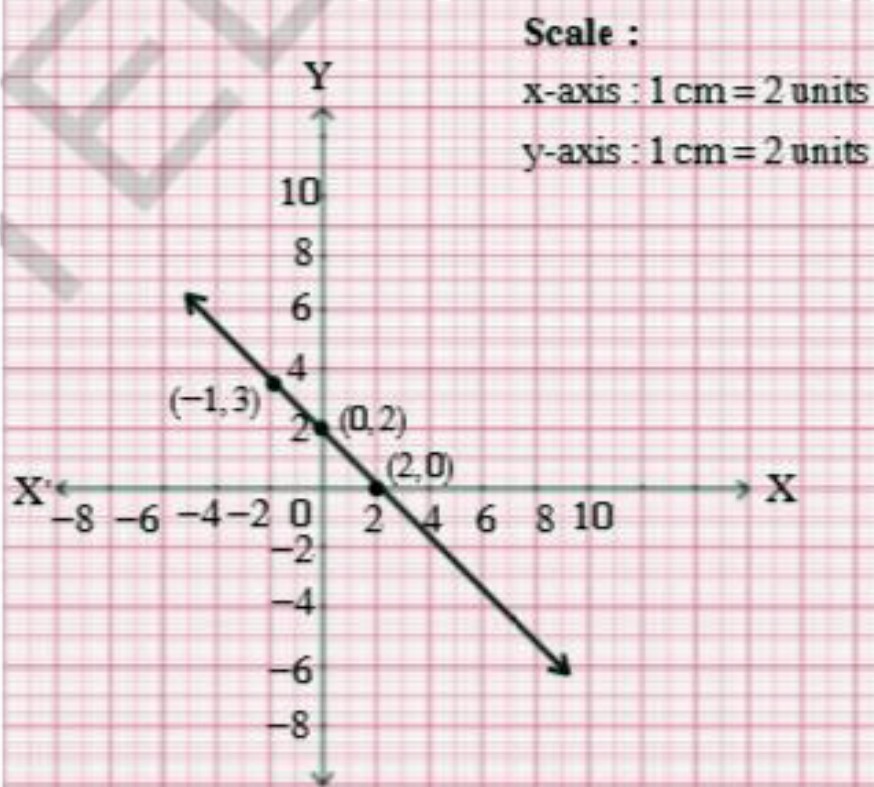
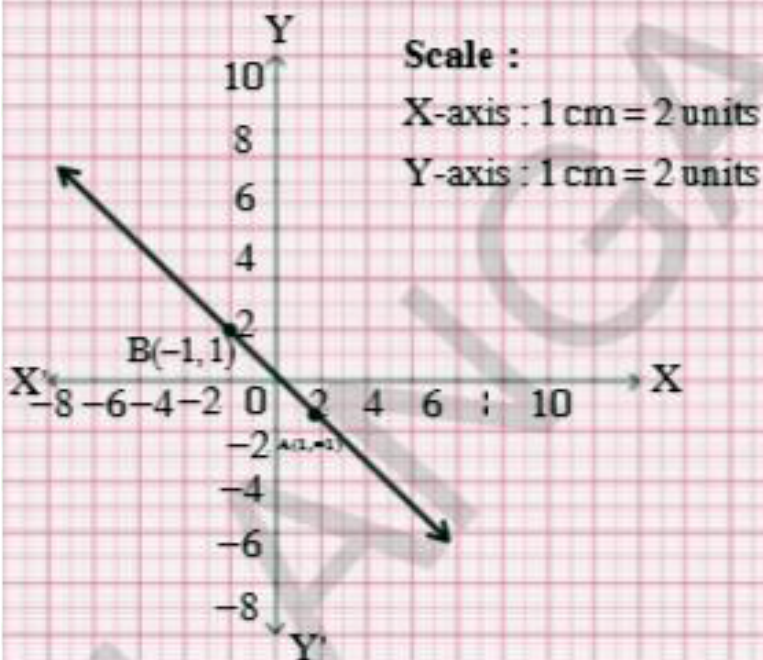
(ii) Equations are

(A)  $y = x + 2$

(B)  $y = x - 2$

(C)  $y = -x + 2$

(D)  $x + 2y = 6$





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**26.** For each graph given below, four linear equations are given. Out of these find the equation that represents the given graph.

(i) Equations are

(A)  $y = x$

(B)  $x + y = 0$

(C)  $y = 2x$

(D)  $2 + 3y = 7x$

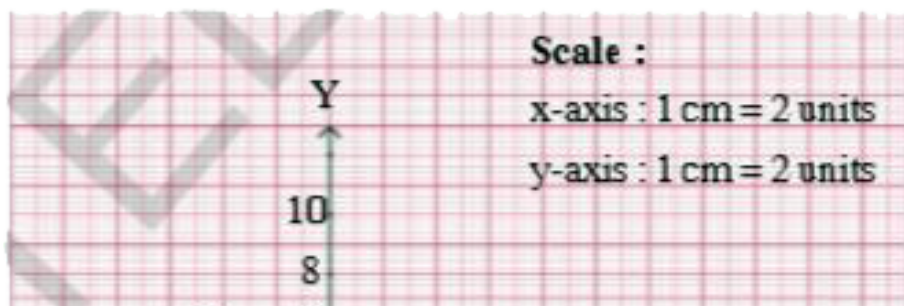
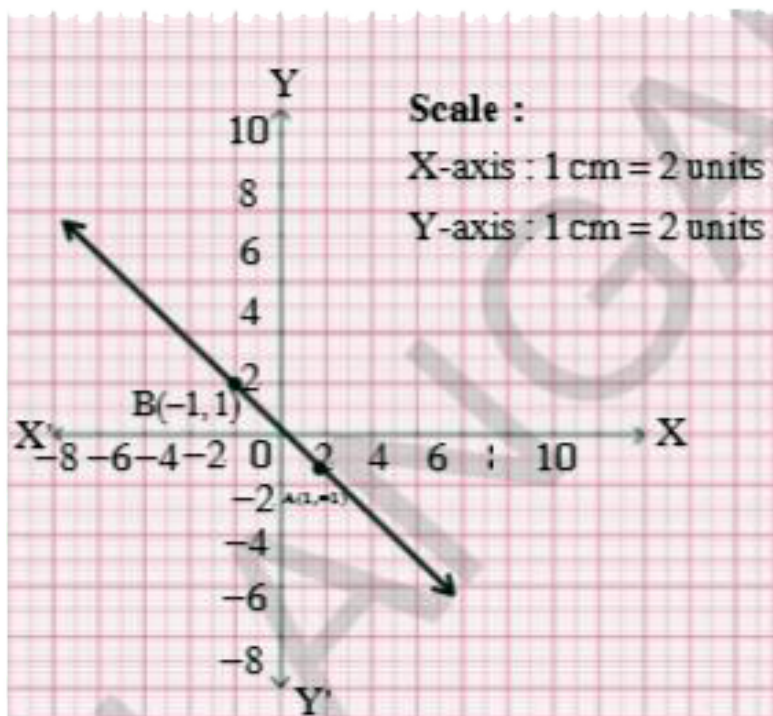
(ii) Equations are

(A)  $y = x + 2$

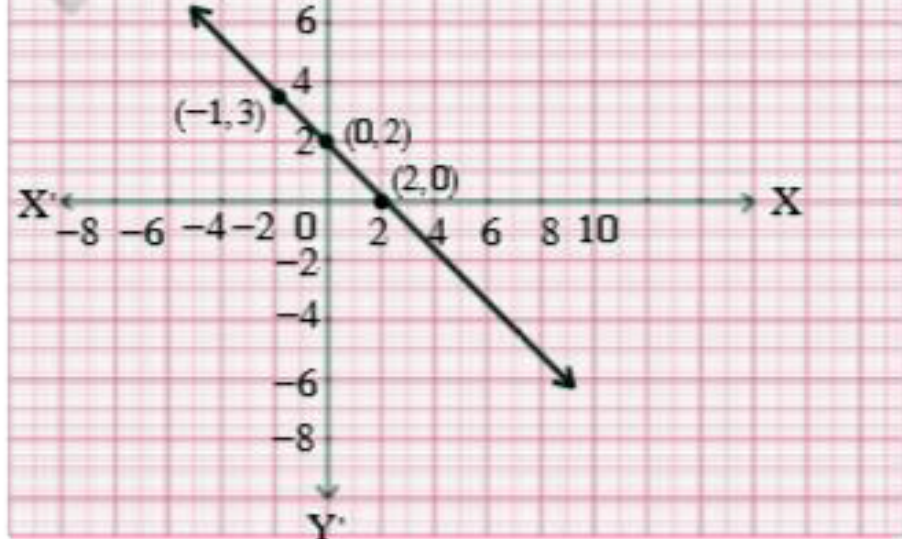
(B)  $y = x - 2$

(C)  $y = -x + 2$

(D)  $x + 2y = 6$







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