MATHS

BOOKS - NCERT MATHS (HINGLISH)

LINEAR EQUATION IN TWO VARIABLES

Linear Equation In Two Variables

1. The linear equation $2x - 5y = 7$ has

A. a unique solution

B. two solutions

C. infinitely many solutions

D. no solution

Answer: C

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2. The equation $2x+5y=7$ has a unique solution, if x and y are

A. natural numbers

B. positive real numbers

C. real numbers

D. rational numbers

Answer: A

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3. If $(2, 0)$ is a solution of the linear equation

$2x + 3y = k$, then the value of k is

A. 4

B. 6

C. 5

D. 2

Answer: A

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4. Any solution of the linear equation $2x + 0y + 9 = 0$ in the two variables is of the form

A. $\left(-\dfrac{9}{2}, m \right)$

B. $\left(n, -\dfrac{9}{2} \right)$

C. $\left(0, -\dfrac{9}{2} \right)$

D. $(-9, 0)$

Answer: A

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5. The graph of the linear equation 2x+3y=6

cuts the Y-axis at the point

A. (2,0)

B. (0,3)

C. (3,0)

D. (0,2)

Answer: D

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6. The equation x=7, in two variables can be written as

A. $1. x + 1. y = 7$

B. 1.x+0.y=7

C. 0.x+1.y=7

D. 0.x+0.y=7

Answer: B

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7. Any point on the X-axis is of the form

A. (x,y)

B. (0,y)

C. (x,0)

D. (x,x)

Answer: C

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8. Any point on the line $y = -x$ is of the form

A. (a, a)

B. $(0, a)$

C. $(a, 0)$

D. $(a, \ - a)$

Answer: D

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9. The equation of X-axis is of the form

A. x=0

B. y=0

C. x+y=0

D. x=y

Answer: B

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10. The graph of y=6 is a line

A. parallel to X-axis at a distance 6 units

from the origin

B. parallel to Y-axis at a distance 6 units

from the origin

C. making an intercept 6 on the X-axis

D. making an intercept 6 on both axes

Answer:

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11. x=5 and y=2 is a solution of the linear

equation

A. $x + 2y = 7$

B. $5x + 2y = 7$

C. $x + y = 7$

D. $5x + y = 7$

Answer: C

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12. If a linear equation has solutions (-2,2)(0,0) and (2,-2), then it is of the form

A. y-x=0

B. x+y=0

C. $-2x + y = 0$

D. $-x + 2y = 0$

Answer: B

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13. The positive solutions of the equation

ax+by+c=0 always lies in the

A. Ist quadrant

B. IInd quadrant

C. IIIrd quadrant

D. IVth quadrant

Answer: A

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14. The graph of the linear equation 2x+3y=6 is

a line which meets the X-axis at the point.

A. (0,2)

B. (2,0)

C. (3,0)

D. (0,3)

Answer: C

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15. The graph of the linear equation y=x passes

through the point

A. $(3/2, \ -3/2)$

B. $(0, 3/2)$

C. (1,1)

D. $\left(-\dfrac{1}{2}, \dfrac{1}{2} \right)$

Answer:

16. If we multiply or divide both sides of a linear equation with a non-zero number, then the solution of the linear equation.

A. changes

B. remains the same

C. Only changes in case of multiplication

D. Only changes in case of division

Answer: B

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17. How many linear equations in x and y can

be satisfied by $x = 1$ and $y = 2$?

A. Only one

B. Two

C. Infinitely many

D. Three

Answer: C

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18. The point of the form (a,a) always lies on

A. X-axis

B. Y-axis

C. the line y=x

D. the line x+y=0

Answer: C

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19. The point of the form (a,-a) always lies on the line

A. x=a

B. y= -a

C. y=x

D. x+y=0

Answer:

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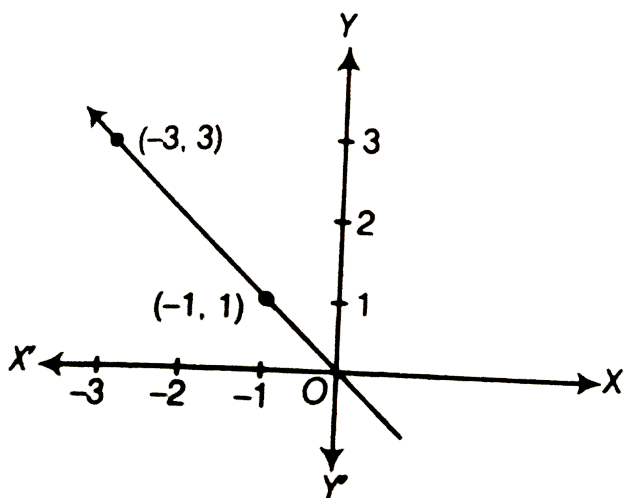**20.** The point (0,3) lies on the graph of the linear equation $3x+4y=12$.

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21. The graph of the linear equation $x+2y=7$ passes through the point (0,7).
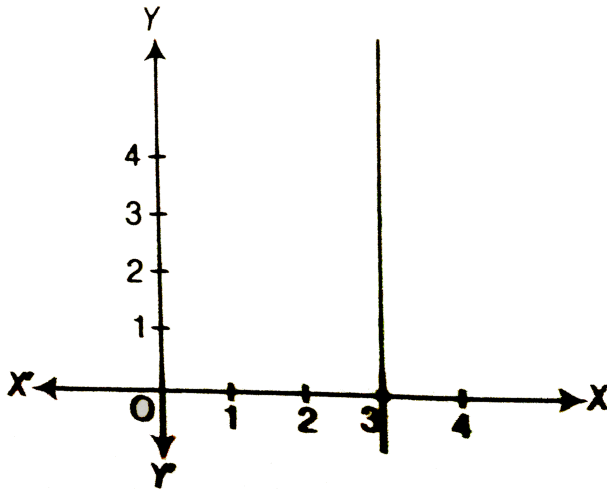
22. The graph given below represents the linear equation $x+y=0$.

23. The graph given below represents the linear equation x=3.

24. The coordinates of points in the table

x	0	1	2	3	4
y	2	3	4	−5	6

represent some of the solutions of the equation x-y+2=0.

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25. Every point on the graph of a linear equation in two variables does not represent a solution of the linear equation.

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26. The graph of every linear equation in two variables need not be a line.

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27. Draw the graphs of linear equations y=x and y=-x on the same cartesian plane. What do you observe ?

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28. Determine the point on the graph of the linear equation $2x+5y=19$ whose ordinate is $1\frac{1}{2}$ times its abscissa.

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29. Draw the graph of the equation represented by a straight line which is parallel to the X-axis and at a distance 3 units below it.

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30. Draw the graph of the linear equation whose solutions are represented by the points having the sum of the coordinates as 10 units.

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31. Write the linear equation such that each point on its graph has an ordinate 3 times its abscissa.

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32. If the point (3, 4) lies on the graph of 3y=ax+7, then find the value of a.

33. Solve the equation $2x + 1 = x - 3$ and represent the solution(s)on (i) the number line(ii) the Cartesian plane.

34. Find the solution of the linear equation x+2y =8 which represents a point on

(i) X-axis (ii) Y-axis

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35. For what value of c, the linear equation 2x+cy=8 has equal values of x and y for its solutions ?

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36. Let y varies directly as x. If y=12 when x=4, then write a linear equation. What is value of y when x=5 ?

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37. Show that the points A (1,2), B(-1, -16) and C (0, -7) lie on the graph of the linear equation y=9x -7.

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38. The following observed values of x and y are thought to satisfy a linear equation. Write the linear equation

x	6	−6
y	−2	6

Draw the graph using the values of x, y as given in the above table.

At what points the graph of the linear equation

(i) cuts the X-axis ? (ii) cuts the Y-axis ?

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39. Draw the graph of the linear equation 3x + 4y = 6. At what points, the graph cuts X and Y-axes ?

40. The linear equation that converts Fahrenheit (F) to Celsius (C) is given by the relation, $C = \dfrac{5F - 160}{9}$.

(i) If the temperature is $86°$ F , what is the temperature in Celsius ?

(ii) If the temperature is $35°$C, what is the

temperature in Fahrenheit ?

(iii) If the temperature is $0°C$, what is the temperature in Fahrenheit and if the temperature is $0°F$, what is the temperature in Celsius ?

(iv) What is the numerical value of the temperature which is same in both the scales ?

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41. If the temperature of a liquid can be measured in kelvin units as $x°K$ or in fahrenheit units as $y°F$, the relation between the two systems of measurement of temperature is given by the linear equation.

$$y = \frac{9}{5}(x - 273) + 32$$

(i) find the temperature of the liquid in fahrenheit, if the temperature of the liquid is 313 K.

(ii) If the temperature in kelvin.

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42. You know that the force applied on a body is directly proportional to the acceleration produced in the body. Write an equation to express this situation and plot the graph of the equation.

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