



MATHS

BOOKS - MBD

Linear Equations In Two Variables

Exercise

1. The cost of a note book is twice the cost of a pen. Write a linear equation in two variables to represent this statement.



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2. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $2x + 3y = 9.\overline{35}$.



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3. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $x - \frac{y}{5} - 10 = 0$



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4. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $-2x + 3y = 6$.



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5. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $x = 3y$.



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6. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $2x = -5y$.



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7. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $3x + 2 = 0$.



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



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9. Express the following linear equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in each case. $5 = 2x$.



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10. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $2x + 3y = 4$.



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11. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $x - 4 = 3y$.



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12. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $6 = 5x - 3y$.



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13. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $2x = y$.



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14. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $5y = x$.



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15. Write the following equation in the form $ax + by + c = 0$ and indicate the values of a , b and c in the case : $\frac{x}{3} = \frac{y}{5} + 7$.



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16. Write the following equation in two variables : $x = -5$.



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17. Write the following equation in two variables : $y = 2$.



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18. Write the following equation in two variables : $2x = 3$.



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19. Write the following equation in two variables : $5y = 2$.



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20. Write the following equation in two variables : $-3y = 7$.



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21. Write the following equation in two variables : $-3x = 1$.



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22. In One Day International cricket match between India and South Africa played in Kolkata, two Indian batsmen Rahul and Sourav together scored, 185 runs. Express this information in the form of an equation. (Take runs scored by Rahul as x and runs scored by Sourav as y).



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23. Which one of the following option is true and why? $y = 3x + 5$ has

A. (i) a unique solution

B. (ii) only two solutions

C. (iii) infinitely many solutions.

D.

Answer:



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24. Write four solutions for the following equation : $2x + y = 7$.

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25. Write four solutions for the following equation : $\pi x + y = 9$.

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26. Write four solutions for the following equation : $x = 4y$.



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27. Check the following is solution of the equation $x - 2y = 4$ or not. $(0, 2)$



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28. Check the following is solution of the equation $x - 2y = 4$ or not. $(2, 0)$



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29. Check the following is solution of the equation $x - 2y = 4$ or not. $(4, 0)$



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30. Check the following is solution of the equation $x - 2y = 4$ or not. $(\sqrt{2}, 4\sqrt{2})$



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31. Check the following is solution of the equation $x - 2y = 4$ or not. $(1, 1)$



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32. Find the value of k if $x = 2$, $y = 1$ is a solution of the equation $2x + 3y = k$.



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33. Find two solutions for the following equation : $2x + 3y = 12$.



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34. Find two solutions for the following equation : $2x + 5 = 0$.



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35. Find two solutions for the following equation : $3y + 4 = 0$.



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36. Find two solutions for the following equation : $4x - y = 9$.



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37. Find at least four solutions for the given equations: $5x + 7y = 12$.



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38. Find at least four solutions for the given equations: $4x + 3y = 13$.



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39. Find at least four solutions for the given equations: $x + 2y = 6$.



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40. Find at least four solutions for the given equations: $-3x + y = 7$.



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41. Find the value of a so that the following equation may have $x = -4$ and $y = 1$ as a solution. $-5x + 2ay = -8$.



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42. Find the value of a so that the following equation may have $x = -4$ and $y = 1$ as a solution. $-5x + 2ay = -8$.



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43. Find the value of a so that the following equation may have $x = -4$ and $y = 1$ as a solution. $3ax - 7y = 5$.



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44. Find the solutions of form $x = a, y = 0$ and $x = 0, y = b$ for the following pairs of equations. Do they have any common such solution ? $7x + 3y = 42$ and $2x + 5y = 12$.



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45. Find the solutions of form $x = a, y = 0$ and $x = 0, y = b$ for the following pairs of equations. Do they have any common such solution ? $2x + 9y = 18$ and $3x - 4y = 24$.



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46. If the point (3, 4) lies on the graph of the equation $3y = ax + 7$, Find the value of a .



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47. The taxi fare in a city is as follows : For the first kilometre, the fare is Rs.8 and for the subsequent distance it is Rs.5 per kilometre. Taking the distance covered as x km and total

fare as Rs. y , write a linear equation for this information and draw its graph.



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



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49. Draw the graph of $x + y = 1$.



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50. As you know that acceleration produced in a body is directly proportional to the applied force. Express the given situation in the form of a equation and draw the graph of the equation.



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51. Choose the correct equation from the choices given for the following graph :



A. $x + y = 0$

B. $y = 2x$

C. $y = x$

D. $y = 3x$.

Answer:



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52. Choose the correct equation from the choices given for the following graph :



A. $x + y = 0$

B. $y = 2x$

C. $y = 2x + 4$

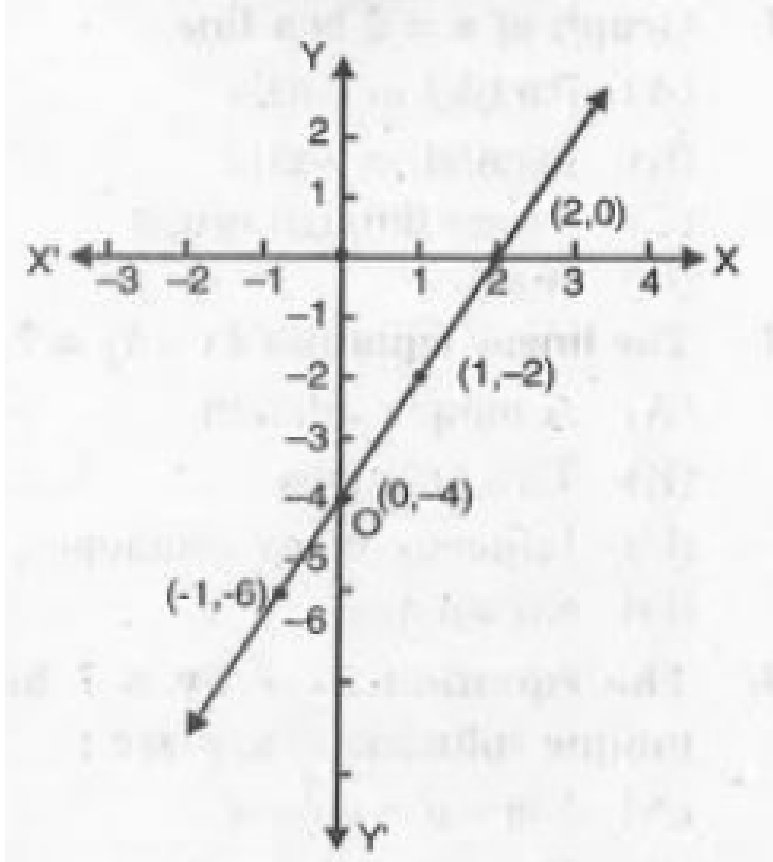
D. $y = x - 4$.

Answer:



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53. Choose the correct equation from the choices given for the following graph :



A. $x + y = 0$

B. $y = 2x$

C. $y = 2x + 1$

D. $y = 2x - 4.$

Answer:



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54. Give the geometric representation of $y = 3$ as an equation in one variable.



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55. Give the geometric representation of $y = 3$ as an equation in two variables.



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56. Give the geometric representation of $2x + 9 = 0$ as an equation in one variable.



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57. Give the geometric representation of $2x + 9 = 0$ as an equation in two variable.



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58. Express $Y = -4$ graphically in terms of one variable.



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59. Express $Y = -4$ graphically in terms of one variable.



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60. Solve $2x + 1 = x - 3$ and express it graphically in terms of one variable.



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61. Solve $2x + 1 = x - 3$ and express it graphically in terms of two variable.



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62. The solution of the equation $x - 2y = 4$ is

:

A. (0, 2)

B. (4, 0)

C. (1, 1)

D. (2, 0).

Answer:



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63. In graphical representation of $y = -4$,
line is :

- A. Parallel to x-axis
- B. Parallel to y-axis
- C. Passes through origin
- D. None.

Answer:



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64. Solution of equation $2x + 1 = x + 3$ is :

A. 3

B. 4

C. 2

D. 1

Answer:



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65. The graph of line $x - y = 0$ passes through :

A. (2, 3)

B. (3, 4)

C. (5, 6)

D. (0, 0).

Answer:



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66. The graph of line $x + y = 7$ intersect the x-axis at :

A. (7, 0)

B. (0, 7)

C. (- 7, 0)

D. (0, - 7).

Answer:



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67. Point $(4, 1)$ lies on the line :

A. $x + 2y = 5$

B. $x + 2y = -6$

C. $x + 2y = 6$

D. $x + 2y = 16.$

Answer:



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68. Graph of $x = 2$ is a line :

- A. Parallel to x-axis
- B. Parallel to y-axis
- C. Passes through origin
- D. None.

Answer:



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

- A. A unique solution
- B. Two solutions
- C. Infinitely many solutions
- D. No solution.

Answer:



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

- A. Natural numbers
- B. Positive real numbers
- C. Real numbers
- D. Rational numbers.

Answer:



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71. 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:



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

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

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

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

D. $(-9, 0)$.

Answer:



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73. 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:



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

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

B. $1 \cdot x + 0 \cdot y = 7$

C. $0 \cdot x + 1 \cdot y = 7$

D. $0 \cdot x + 0 \cdot y = 7$.

Answer:



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75. Any point on the x-axis is of the form

A. (x, y)

B. $(0, y)$

C. $(x, 0)$

D. (x, x) .

Answer:



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

A. (a, a)

B. $(0, a)$

C. $(a, 0)$

D. $(a, -a)$.

Answer:



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77. The equation of x-axis is of the form

A. $x=0$

B. $y=0$

C. $x + y = 0$

D. $x = y.$

Answer:



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78. 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 the axes.

Answer:



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79. $x = 5, y = 2$ is a solution of the linear equation

A. $x + 2y = 7$

B. $5x + 2y = 7$

C. $x + y = 7$

D. $5x + y = 7$.

Answer:



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80. 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:



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81. The positive solutions of the equation is $ax + by + c = 0$ always lie in the

- A. 1st quadrant
- B. 2nd quadrant
- C. 3rd quadrant
- D. 4th quadrant.

Answer:



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82. 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:



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83. The graph of the linear equation $y = x$ passes through the point

A. $\left(\frac{3}{2}, \frac{-3}{2}\right)$

B. $\left(0, \frac{3}{2}\right)$

C. $(1, 1)$

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

Answer:



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84. 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. Changes multiplication only
- D. Changes in case of division only.

Answer:



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85. 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:



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

A. x-axis

B. y-axis

C. On the line $y=x$

D. On the line $x+y = 0$.

Answer:



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87. The point of 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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88. Write whether the following statement is True or False ? Justify your answers : The point $(0, 3)$ lies on the graph of the linear equation $3x + 4y = 12$.



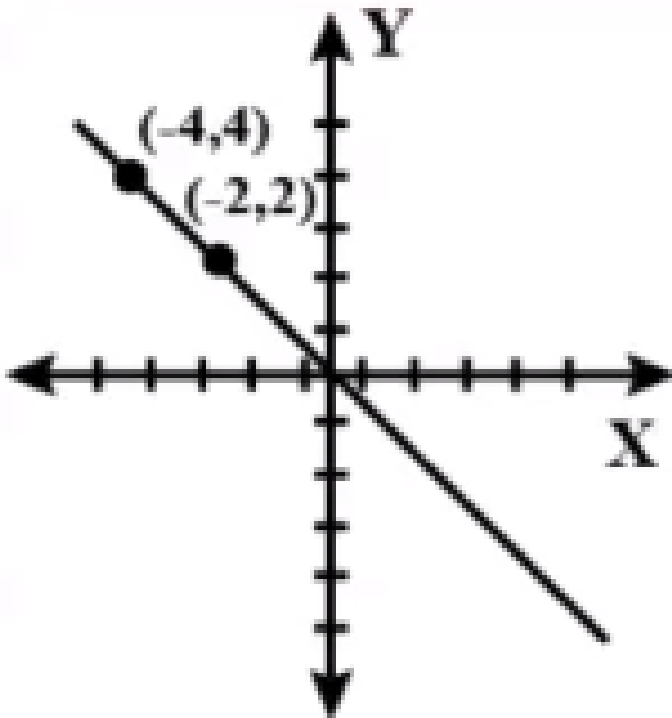
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89. Write whether the following statement is True or False ? Justify your answers : The graph of the linear equation $x + 2y = 7$ passes through the point $(0, 7)$.



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90. Write whether the following statement is True or False ? Justify your answers : The graph represents the linear equation $x + y = 0$.





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91. Write whether the following statement is True or False ? Justify your answers : 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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92. Write whether the following statement is True or False ? Justify your answers : The graph

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



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