MATHS4U

Assignment **It's all about believing**

+9 Class **Topic:- Linear equation in two variable**

One Mark Questions

1. The cost of a toy elephant is the same as cost of 3 balls. Express the statement as a linear equation I two variables.
2. The auto fares in a city are as follow: For the first kilometer, the fare is Rs 8 and for subsequent distance it is Rs 3.5 per km. Taking the distance covered as x km and total fare Rs y, write a linear equation for the information.

Write each of the following equation as linear equation in the form ax + by + c = 0. Also write the values of a, b and c .

3. $3x + 2 = 0$ 4. $Y - 5 = 0$ 5. $2x = 11$ 6. $3y = 4$ 7. $3x - 4y = 7$
8. $\sqrt{7}\, y = 2x$
9. Verify that x = 1, y = 1 is a solution of the linear equation $5x - 3y = 2$.
10. Verity that x = 2, y = 1 is a solution of the linear equation $3x + 4y = 10$.

Two Mark Questions

11. Find the value of b if (-3, 4) is a solution of the equation $3x - 4y = b$.
12. Which one of the following statements is true and why? The equation $2y = 5x - 11$ has (i) a unique solution (ii) only two solutions (iii) infinitely many solutions (iv) no solution

Draw the graph of each of the following equations

13. $X + 4 = 0$ 14. $2y - 7 = 0$ 15. $X - 3 = 0$

Three mark Questions

16. Draw the graph of each of the equations $2x - 3y + 5 = 0$ and $5x + 4y + 1 = 0$ and find the coordinates of the point where the lines meet.
17. The auto fares in a city are as follows: For the first kilometer the fare is Rs 12 and the subsequent distance is Rs 7 per km. Taking the distance covered as x km and the total fare as Rs y, write a linear equation and draw its graph.
18. If x is the number of hours a labourer is on work and y are his wages in rupees, then $y = 4x + 13$. Draw the work wages graph. From your graph, find the wages of a labourer who puts in 6 hours of work.
19. Linear equation for converting Fahrenheit to Celsius is $F = \left(\frac{9}{5}\right)C + 32$ (i) Draw the graph of this equation using Celsius for x-axis and Fahrenheit for y-axis (ii) If the temperature is 45°C, find the temperature in Fahrenheit. (iii) If the temperature is 104°C in Fahrenheit, find the temperature in Celsius (iv) If the temperature is 0°C, find it in Fahrenheit. (v) If the temperature is 0°C, find it in Celsius. (vi) Is there a temperature which is numerically the same in both Fahrenheit and Celsius? If yes, find it.
20. If the work done by a body on application of a constant force is directly proportional to the distance travelled by the body, express this in the form of an equation in two variables and draw the graph of the same by taking the constant force as 5 units. Also read from the graph the work down when the distance travelled by the body is (i) 2 units (ii) 0 units

Answer

1.x = 3y where x is the cost of a toy elephant and y is the cost of a ball. 2. $Y = 3.5 (x - 1) + 8$ 3. $3x + 0y + 2 = 0$; a = 3, b = 0 and c = 2 4. $0x + 1y (-5) = 0$; a = 0, b = 1 and c = -5 5. $2x + 0y + (-11) = 0$; a = 2, b = 0, c = -4 6. $0x + 3y + (-4) = 0$; a = 0, b = 3 and c = -4 7. $3x + (-4)y + (-7) = 0$; a = 3, b = -4 and c = -7 8. $2x - \sqrt{7}\, y + 0 = 0$, a = 2, b = $-\sqrt{7}$ and c = 0 11. B = -25 12. (iii) 16. (-1,1) 17. $Y = 7 (x - 1) + 12$ 18. Rs 37 19. (ii) 113°F (iii) 40° C (iv) 32°F (v) -17.8°C (vi) Yes, -40° in both 20. (i) 10 units (ii) 0 units