

- Q1. What is the form of the point on the y -axis?
- Q2. If $(2, 0)$ is a solution of the linear equation $2x + 3y = k$, then what is the value of k ?
- Q3. What is the form of any solution of the linear equation $2x + 0y + 9 = 0$?
- Q4. At what point does the graph $2x + 3y = 6$ cuts the y -axis?
- Q5. How can you write $x = 7$ in two variables?
- Q6. What will be the form of any point on the line $y = x$?
- Q7. What is the equation of (i) x -axis (ii) y -axis?
- Q8. The graph of $y = 6$ is a line parallel to _____?
- Q9. If we multiply or divide both sides of a linear equation with a non-zero number, then what will happen to the solution?
- Q10. How many linear equations in x and y can be satisfied by $x = 1$ and $y = 2$?
- Q11. Where will the point of the form (a, a) lie?
- Q12. Where will the point of the form $(a, -a)$ lie?
- Q13. Write whether True or False. Justify.
- (a) $ax + by + c = 0$ where a, b and c are real numbers, is a linear equation
 - (b) A linear equation $2x + 3y = 5$ has a unique solution
 - (c) All the points $(2, 0)$, $(-3, 0)$, $(4, 2)$ and $(0, 5)$ lie on the x -axis.
 - (d) The line parallel to the y -axis at a distance 4 units to the left of y -axis is given by the equation $x = -4$.
 - (e) The graph of the equation $y = mx + c$ passes through the origin.
- Q14. Find the points where the graph of the equation $3x + 4y = 12$ cuts the x -axis and the y -axis.

Q15. At what point does the graph of $x+y=5$ meet a line which is parallel to the y -axis, at a distance 2 units from the origin and in the positive direction of x -axis.

Q16. Determine the point on the graph of the equation $2x+5y=20$ whose x -coordinate is $\frac{5}{2}$ times its ordinate.

Q17. Draw the graph of the equation represented by the straight line which is parallel to the x -axis and is 4 units above it.

Q18. Draw the graphs of $y=x$ and $y=-x$ on the same Cartesian plane.

Q19. If the point $(3,4)$ lies on the graph $3y=ax+7$, then find the value of a .

Q20. How many solution(s) of the equation $2x+1=x-3$ are there on the (i) number line (ii) Cartesian plane

Q21. Find the solution of the linear equation $x+2y=8$ which represents a point on (i) x -axis (ii) y -axis.

Q22. Let y varies directly as x . If $y=12$ when $x=4$, then write a linear equation. What is the value of y when $x=5$?

Q23. Show that the points $A(1,2)$, $B(-1,-16)$ and $C(0,-7)$ lie on the graph of the linear equation $y=9x-7$.

Q24. Draw the graph of the linear equation $3x+4y=6$. At what points, the graph cuts the x -axis and the y -axis.

Q25. If the temperature of a liquid can be measured in Kelvin units as $x^{\circ}\text{K}$ or Fahrenheit units as $y^{\circ}\text{F}$, the relation is given by $y = \frac{9}{5}(x-273) + 32$. Draw the graph.
(i) Find the temp of the liquid in Fahrenheit if the temp of the liquid is 313°K

(ii) If the temp is 158°F , then find the temp in Kelvin

Q26. The linear equation that converts Fahrenheit (F) to Celsius (C) is given by $C = \frac{5F-160}{9}$. Draw the graph

Q27. If $x=1$, $y=2$ is a solution of the equation $a^2x + ay = 3$, then find the value of a .

Q28. If $x=2k-1$ and $y=k$ is a solution of the equation $3x-5y-7=0$, find the value of k .

Q29. If $x=2\alpha+1$ and $y=\alpha-1$ is a solution of the equation $2x-3y+5=0$, find the value of α .

Q30. Draw a graph of the line $x-2y=3$. From the graph, find the coordinates of the point when

(i) $x=-5$ (ii) $y=0$.

Q31. Draw the graphs of the equations $x-y=1$ and $2x+y=8$. Shade the area bounded by these two lines and y -axis.

Q32. Check whether the point $(a, -a)$ lies on $x = y + a$ or not.

Q33. Check whether the graph of the equation $y=3x+5$ passes through the origin or not.

Q34. Give the equations of two lines passing through $(4, -2)$. How many more such lines are there and why?

Q35. Solve the equation $2x+1=x-3$, and represent the solution(s) on (i) the number line
(ii) the cartesian plane.