

1. Check, whether point $(4, -2)$ lies on the line represented by equation $3x + 5y = 2$ or not?
2. The straight line represented by equation $x - 3y + 8 = 0$ passes through $(2, 4)$. Is this true
3. The line, represented by the equation $3x - 8y = 2$, passes through the point $(k, 2)$. Find the value of k .
4. Does the line $3x = y + 1$ bisect the line segment joining $A(-2, 3)$ and $B(4, 1)$?
5. The line segment joining $A(2, 1)$ and $(5, -8)$ is trisected at the points P and Q . If P is closer to point A and lies on the line $2x - y + k = 0$, find the value of k .
6. Find the slope of the line segment whose inclination is:
 - i. 60°
 - ii. 52°
7. Find the inclination of the line whose slope is:
 - i. 1
 - ii. 2.9042
8. Find the slope of the line passing through the points $A(-2, 3)$ and $B(2, 7)$. Also find:
 - i. The inclination of the line AB ,
 - ii. Slope of the line parallel to AB ,
 - iii. Slope of the line perpendicular to AB .
9. The line joining $A(-3, 4)$ and $B(2, -1)$ is parallel to the line joining $C(1, -2)$ and $D(0, x)$. Find x .
10. Given the points $A(2, 3)$, $B(-5, 0)$ and $C(-2, a)$ are collinear. Find 'a'.
11. Find the equation of a line:
 - i. Whose inclination is 45° and y -intercept is 5 .
 - ii. With inclination $= 60^\circ$ and passing through $(-2, 5)$.
 - iii. Passing through the points $(-3, 1)$ and $(1, 5)$.
12. Find the equation of the line whose x -intercept is 8 and y -intercept is -12 .
Find the equation of the line whose slope is -3 and x -intercept is also -3 .
13. Find the equation of the line which passes through $(2, 7)$ and whose y -intercept is 3 .
14. The equation of a line is $3x - 4y + 12 = 0$. It meets the x -axis at point A and the Y -axis at point B . find:
 - i. The co-ordinates of points A and B ;
 - ii. The length of intercept AB cut by the line within the co-ordinate axes.

15. Write down the equation of the line whose gradient is $\frac{2}{3}$ and which passes through P, where P divides the line segment joining A(-2, 6) and B(3, -4) in the ratio 2 : 3.
16. A straight line passes through the point P(3, 2). It meets the x-axis at point A and the y-axis at point B. If $\frac{PA}{PB} = \frac{2}{3}$, find the equation of the line that passes through the point P and is perpendicular to line AB.
17. Find the equations of the lines which pass through the point (-2, 3) and are equally inclined to the co-ordinate axes.
18. Find the slope and y-intercept of the line $2x - 3y - 4 = 0$.
19. Given two straight lines $3x - 2y = 5$ and $2x + ky + 7 = 0$. Find the value of k for which the given lines are:
- Parallel to each other
 - Perpendicular to each other.
20. Find the equation of the line passing through (2, -1) and parallel to the line $2x - y = 4$.
21. Find the equation of the line which passes through the point (-2, 3) and is perpendicular to the line $2x + 3y + 4 = 0$
22. Given two points A (-5, 2) and B (1, -4), find
- Mid-point of AB ;
 - Slope of AB;
 - Slope of perpendicular to AB;
 - Equation of the perpendicular bisector of AB.
23. ABCD is a rhombus. The co-ordinates of A and C are (3, 6) and (-1, 2) respectively. Find the equation of BD.
24. Match the equations A, B, C, D and E with the lines $L_1, L_2, L_3, L_4,$ and L_5 whose graphs are roughly drawn in the given diagram.

$$A = 2x + y = 0$$

$$B = 2x + y = 20$$

$$C = x = 8$$

$$D = y = -12$$

$$E = 2x + 3y + 12 = 0$$

