

Worksheet

Topic: - Straight Line (Standard)

1. Find the point on the x - axis, whose distance from the line $\frac{x}{3} + \frac{y}{4} = 1$ is 4 units.
2. Reduce the equation $3x + 2y - 12 = 0$ into intercepts form and find their intercepts on the axes.
3. Find the distance of the point $(-1, 1)$ from the line $12(x + 6) = 5(y - 2)$.
4. Find the equation of the line parallel to the line $3x - 4y + 2 = 0$ and passing through the point $(-2, 3)$.
5. Find equation of the line perpendicular to the line $x - 7y + 5 = 0$ and having x - intercept 3.
6. Find the angle between $\sqrt{3}x + y = 1$ and $x + \sqrt{3}y = 1$.
7. The line through the points $(h, 3)$, $(4, 1)$ intersects the line $7x - 9y - 19 = 0$, at right angle. Find the value of h .
8. Two lines passing through the point $(2, 3)$ intersects each other at an angle of 60° . If slope of one line is 2, find the equation of other line.
9. Find the equation of right bisector of the line segment joining the points $(3, 4)$ and $(-1, 2)$.
10. Find the coordinates of the foot of the perpendicular from the point $(-1, 3)$ to the line $3x - 4y - 16 = 0$.
11. The perpendicular from the origin to the line $y = mx + c$ meets it at the point $(-1, 2)$. Find the values of m and c .
12. Find the perpendicular distance from origin to the line joining the points $(\cos \theta, \sin \theta)$ and $(\cos \phi, \sin \phi)$.
13. Find the equation of the line parallel to y axis and drawn through the point of intersection of the lines $x - 7y + 5 = 0$ and $3x + y = 0$.
14. Find the equation of the lines through the point $(3, 2)$ which make an angle of 45° with the line $x - 2y = 3$.

15. Find the equation of the line passing through the point of intersection of the lines $4x + 7y - 3 = 0$ and $2x - 3y + 1 = 0$ that has equal intercepts on the axes.
16. In what ratio, the line joining $(-1, 1)$ and $(5, 7)$ is divided by the line $x + y = 4$.
17. Find the direction in which a straight line must be drawn through the points $(-1, 2)$ so that its point of intersection with the line $x + y = 4$ may be at a distance of 3 units from this point.
18. The hypotenuse of a right angled isosceles triangle has its end at the points $(1, 3)$ and $(-4, 1)$. Find the equation of the legs of the triangle.
19. Find the image of the point $(3, 8)$ with respect to the line $x + 3y = 7$ assuming the line to be a plane mirror.
20. A ray of light passing through the point $(1, 2)$ reflects on the x -axis at point A and the reflected ray passes through the point $(5, 3)$. Find the coordinates of A .