

INTERNATIONAL INDIAN SCHOOL BURAIDAH
WORKSHHET: STRAIGHT LINES
CLASS:11-(2024-25)

1-Find the slope of the line $6x + 3y - 5 = 0$

2-Find the slope of a line perpendicular to the line passing through $(3, 8)$ and $(2, -2)$

3-The slope of a line is double the slope of another line .If tangent of the angle between them is $\frac{1}{3}$

4-Find the equation of the line passing through the points $(2, 2)$ and $(4, -6)$

If the line $\frac{x}{a} + \frac{y}{b} = 1$

5-Find the equation of the line , which passes through the point $(2,3)$ and makes an angle of 30° With the positive direction of X-axis

6-Find the equation of a line ,whose inclination is 150° with X-axis and passes through $(3, -5)$.

7-Find the angle between the lines $y = (2 - \sqrt{3})(x + 5)$ and $y = (2 + \sqrt{3})(x - 7)$

8-Find the equation of the lines which cut -off intercept on the axes whose sum and products are 1 and -6 .

9-Find the distance of the point of intersection of the lines $2x - 3y + 5 = 0$ and $3x + 4y = 0$ from the line $5x - 2y = 0$

10-Find the equation of the perpendicular bisector of the line segment joining the points A $(2, 3)$ and B $(6, -8)$

11-Line through the points $(-2, 6)$ and $(4, 8)$ is perpendicular to the line through the points $(8, 12)$ and $(x, 24)$ find the value of x .

12-Find the slope of the line , which makes an angle of 30° with the positive direction of Y-axis measured anticlockwise.

13-Find the equation of a line that cuts off equal intercepts on the coordinate axes passes through the point $(2, 3)$

14-The perpendicular from the origin to a line meets it at the point $(-2, 9)$,find the equation of the line .

15-Reduce the following equations into intercepts form and find their intercepts on the axes.

(i) $3x + 2y - 12 = 0$ (ii) $6x + 3y - 5 = 0$

16-Find the equation of the line parallel to the line $3x - 4y + 2 = 0$ and passing through the point $(-2, 3)$.

17-Find the equation of the right bisector of the line segment joining the points $(3, 4)$ and $(-1, 2)$.

18- If p and q are the length of perpendiculars from the origin to the lines $x \cos \theta - y \sin \theta = k \cos 2\theta$ and $x \sec \theta + y \operatorname{cosec} \theta = k$ respectively, prove that $p^2 + 4q^2 = k^2$

19- If 'p' is the length of perpendicular from the origin to the line whose intercepts on the axes are a, b then show that $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$

20-Find the equation of the line, which cut-off intercepts on the axes whose sum and product are 1 and -6.

21-Find the perpendicular distance from the origin to the line joining the points $(\cos \theta, \sin \theta)$ and $(\cos \phi, \sin \phi)$.

22-Find the equation of the line parallel to y-axis and through the point of intersection of the lines $x - 7y + 5 = 0$ and $3x + y = 0$

23-Find the value of p so that the three lines $3x + y - 2 = 0$ and $px + 2y - 3 = 0$ and $2x - y - 3 = 0$ may intersect at one point.

24-Find the equation of the line through the points $(3, 2)$ which make an angle of 45° with the line $x - 2y - 3 = 0$.

25-Find the equation of the line passing through the point of intersection of the line $4x + 7y - 3 = 0$ and $2x - 3y + 1 = 0$.

26-Prove that the product of the lengths of the perpendicular drawn from the points $(\sqrt{a^2 - b^2}, 0)$ and $(-\sqrt{a^2 - b^2}, 0)$ to the line $\frac{x}{a} \cos \theta + \frac{y}{b} \sin \theta = 1$
