



MATHS

BOOKS - JEE MAINS PREVIOUS YEAR

ENGLISH

STRAIGHT LINES

Others

1. Let

$$P = (-1, 0), Q = (0, 0) \text{ and } R = (3, 3\sqrt{3})$$

be three points. The equation of the bisector

of the angle PQR (1) $\sqrt{3}x + y = 0$ (2)

$x + \frac{\sqrt{3}}{2}y = 0$ (3) $\frac{\sqrt{3}}{2}x + y = 0$ (4)

$x + \sqrt{3}y = 0$



[Watch Video Solution](#)

2. Let $A(h, k)$, $B(1, 1)$ and $C(2, 1)$ be the vertices of a right angled triangle with AC as its hypotenuse. If the area of the triangle is 1, then the set of values which k can take is given

by (1) $\{1, 3\}$ (2) $\{0, 2\}$ (3) $\{-1, 3\}$ (4)
 $\{-3, -2\}$



[View Text Solution](#)

3. The perpendicular bisector of the line segment joining P (1, 4) and Q (k, 3) has y-intercept -4 . Then a possible value of k is (1) 1 (2) 2 (3) -2 (4) -4



[Watch Video Solution](#)

4. The lines $p(p^2 + 1)x - y + q = 0$ and $(p^2 + 1)^2 x + (p^2 + 1)y + 2q = 0$ are perpendicular to a common line for (a) no value of p (b) exactly one value of p (c) exactly two values of p (d) more than two values of p



[Watch Video Solution](#)

5. The line L given by $\frac{x}{5} + \frac{y}{b} = 1$ passes through the point $(13, 32)$. The line K is parallel to L and has the equation $\frac{x}{c} + \frac{y}{3} = 1$ Then

the distance between L and K is (1) $\sqrt{17}$ (2)

$$\frac{17}{\sqrt{15}} \quad (3) \quad \frac{23}{\sqrt{17}} \quad (4) \quad \frac{23}{\sqrt{15}}$$



[View Text Solution](#)

6. The lines $L_1 : y - x = 0$ and $L_2 : 2x + y = 0$ intersect the line $L_3 : y + 2 = 0$ at P and Q respectively . The bisectors of the acute angle between L_1 and L_2 intersect L_3 at R .

Statement 1 : The ratio PR : RQ equals

$$2\sqrt{2} : \sqrt{5}$$

Statement - 2 : In any triangle , bisector of an

angle divides the triangle into two similar triangles .



[Watch Video Solution](#)

7. If the line $2x + y = k$ passes through the point which divides the line segment joining the points $(1, 1)$ and $(2, 4)$ in the ratio $3 : 2$, then k equals (1) $\frac{29}{5}$ (2) 5 (3) 6 (4) $\frac{11}{5}$



[Watch Video Solution](#)

8. A line is drawn through the point $(1, 2)$ to meet the coordinate axes at P and Q such that it forms a triangle OPQ, where O is the origin. If the area of the triangle OPQ is least, then the slope of the line PQ is



[Watch Video Solution](#)

9. A ray of light along $x + \sqrt{3}y = \sqrt{3}$ gets reflected upon reaching x-axis, the equation of the reflected rays is (1) $\sqrt{3}y = x - \sqrt{3}$ (2)

$$y = \sqrt{3}x - \sqrt{3} \quad (3)$$

$$\sqrt{3}y = x - 1 \quad (4)$$

$$y = x + \sqrt{3}$$

 [View Text Solution](#)

10. The x-coordinate of the incentre of the triangle that has the coordinates of mid points of its sides as $(0, 1)$, $(1, 1)$ and $(1, 0)$ is (1)

$2 - \sqrt{2}$ (2) $1 + \sqrt{2}$ (3) $1 - \sqrt{2}$ (4) $2 + \sqrt{2}$

 [View Text Solution](#)

11. Let PS be the median of the triangle with vertices $P(2, 2)$, $Q(6, -1)$ and $R(7, 3)$. The equation of the line passing through $(1, -1)$ and parallel to PS is (1) $4x - 7y - 11 = 0$ (2) $2x + 9y + 7 = 0$ (3) $4x + 7y + 3 = 0$ (4) $2x - 9y - 11 = 0$



View Text Solution

12. Two sides of a rhombus are along the lines, $x - y + 1 = 0$ and $7x - y - 5 = 0$. If its

diagonals intersect at $(-1, -2)$, then which one of the following is a vertex of this rhombus?



View Text Solution