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India's Number 1 Education App

## MATHS

## BOOKS - JEE MAINS PREVIOUS YEAR

## STRAIGHT LINES

## Others

1. Let
$P=(-1,0), Q=(0,0) a n d R=(3,3 \sqrt{3})$
be three points. The equation of the bisector
of the angle PQR (1) $\sqrt{3} x+y=0$
$x+\frac{\sqrt{3}}{2} y=0$
(3) $\frac{\sqrt{3}}{2} x+y=0$
$x+\sqrt{3} y=0$

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

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

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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) $2(3)-2(4)-4$

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

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5. If the line $2 x+y=k$ 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) $\frac{11}{5}$
A. $\frac{29}{5}$
B. 5
C. 6
D. $\frac{11}{5}$

## Answer: null

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6. 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 $P Q$ is (1) $-\frac{1}{4}(2)-4$ (3)
$-2(4)-\frac{1}{2}$

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7. The number of values of $k$, for which the system of equations $\quad(k+1) x+8 y=4 k$ $k x+(k+3) y=3 k-1$ has no solution, is
(1) 1 (2) 2 (3) 3 (4) infinite
A. infinte
B. 1
C. 2
D. 3

## Answer: null

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8. 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) $\sqrt{3} y=x-\sqrt{3}$
$y=\sqrt{3} x-\sqrt{3}$
(3) $\sqrt{3} y=x-1$
$y=x+\sqrt{3}$

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9. 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 ) $2-\sqrt{2}(2) 1+\sqrt{2}(3) 1-\sqrt{2}(4) 2+\sqrt{2}$

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

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11. Two sides of a rhombus are along the lines,
$x-y+1=0$ and $7 x-y-5=0$. If its
diagonals intersect at $(-1,-2)$, then
which one of the following is a vertex of this
rhombus?
