Revision 1st Sec.

Final revision

Geometry

If $\overrightarrow{AB} = (2\ ,6)$, $\overrightarrow{AC} = (-2\ ,9)$, then $\| \overrightarrow{BC} \| = \ldots\ldots\ldots\ldots$

(a) 15 (b) 13 (c) 4 (d) 5

$$\overrightarrow{AB} + \overrightarrow{BC} = \overrightarrow{AC}$$

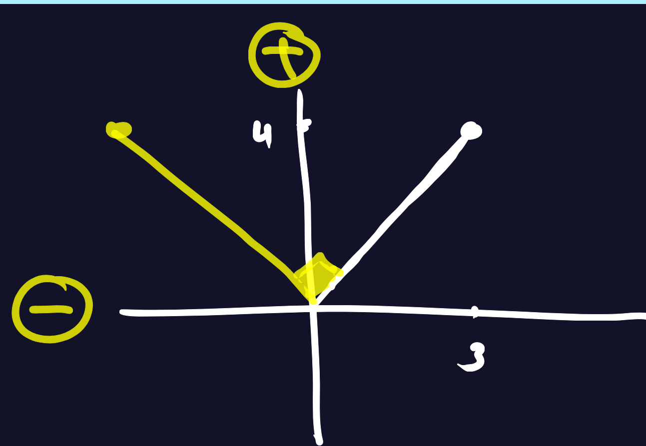
$$\overrightarrow{BC} = \overrightarrow{AC} - \overrightarrow{AB}$$

$$\overrightarrow{BC} = (-2,9) - (2,6) = (-4,3)$$

$$\|\overrightarrow{BC}\| = \sqrt{(-4)^2 + (3)^2} = 5 \text{ L.u.}$$

If $3\overrightarrow{i} + 4\overrightarrow{j} = (k , \theta^{rad})$, $\overrightarrow{A} = \left(k , \frac{\pi}{2} + \theta^{rad}\right)$, then $\overrightarrow{A}$ = (−4 , 3)

(a) $-4\overrightarrow{i} + 3\overrightarrow{j}$ (b) $3\overrightarrow{i} - 4\overrightarrow{j}$ (c) $-3\overrightarrow{i} + 4\overrightarrow{j}$ (d) $4\overrightarrow{i} - 3\overrightarrow{j}$



If $\vec{A} = \left(2\sqrt{2}, \frac{\pi}{4}\right)$, $\vec{B} = \left(2\sqrt{2}, \frac{3\pi}{4}\right)$, then $\vec{A} + \vec{B} =$ ....

(a) $\left(4\sqrt{2}, \pi\right)$ (b) $(4, 4)$ (c) $(4, 0)$ (d) $\left(4, \frac{\pi}{2}\right)$

$\vec{A} = (2\sqrt{2}\cos 45, 2\sqrt{2}\sin 45) = (2, 2)$

$\vec{B} = (2\sqrt{2}\cos 135^\circ, 2\sqrt{2}\sin 135^\circ) = (-2, 2)$

$\vec{A} + \vec{B} = (2, 2) + (-2, 2)$

$= (0, 4)$

If $\overrightarrow{A} = (3 , -2)$, $\overrightarrow{B} = (-2 , 5)$, $\overrightarrow{C} = (0 , 11)$, then the vector $\overrightarrow{C}$ in terms of $\overrightarrow{A}$ and $\overrightarrow{B}$ is ....

(a) $\overrightarrow{C} = 2\overrightarrow{A} + 3\overrightarrow{B}$

(b) $\overrightarrow{C} = 3\overrightarrow{A} + 2\overrightarrow{B}$

(c) $\overrightarrow{C} = 3\overrightarrow{A} - 2\overrightarrow{B}$

(d) $\overrightarrow{C} = 2\overrightarrow{A} - 3\overrightarrow{B}$

$$\overrightarrow{C} = 2\overrightarrow{A} + 3\overrightarrow{B}$$

$$\overrightarrow{C} = K\overrightarrow{A} + m\overrightarrow{B}$$

$$(0,11) = K(3,-2) + m(-2,5)$$

$$(0,11) = (3K,-2K) + (-2m,5m)$$

$$(0,11) = (3K-2m, -2K+5m)$$

$$3K - 2m = 0$$

$$-2K + 5m = 11$$

$$\Rightarrow K = 2 \qquad m = 3$$

The vector represents a displacement of 40 cm. of a body in direction of eastern south = ...

(a) $20\sqrt{2}\,\vec{i} + 20\sqrt{2}\,\vec{j}$ (b) $-20\sqrt{2}\,\vec{i} + 20\sqrt{2}\,\vec{j}$

(c) $-20\sqrt{2}\,\vec{i} - 20\sqrt{2}\,\vec{j}$ (d) $20\sqrt{2}\,\vec{i} - 20\sqrt{2}\,\vec{j}$

$\vec{S} = (40\text{ cm}, 315^\circ)$

$\vec{S} = (40\cos 315, 40\sin 315)$

$= (20\sqrt{2}, -20\sqrt{2})$

$= 20\sqrt{2}\,\hat{i} - 20\sqrt{2}\,\hat{j}$

If $\| 12 \overrightarrow{A} \| = 2 \| k \overrightarrow{A} \|$, then k = ...

(a) 6 (b) ± 6 (c) – 6 (d) 24

$$|12| \, \|\overrightarrow{A}\| = 2 \, |k| \, \|\overrightarrow{A}\|$$

$$12 = 2 \, |k| \Rightarrow |k| = 6$$

$$k = \pm 6$$

If $\overrightarrow{A} = -10\,\overrightarrow{i} + k\,\overrightarrow{j}$, $\overrightarrow{B} = \overrightarrow{i} + 3\,\overrightarrow{j}$ and $\overrightarrow{A} \perp \overrightarrow{B}$, then k = ……………

(a) – 30   (b) $\frac{10}{3}$ (c) $\frac{3}{10}$ (d) 30

$$\tan\theta_1 \times \tan\theta_2 = -1$$

$$\frac{k}{-10} \times 3 = -1$$

$$\frac{k}{-10} = \frac{-1}{3}$$

$$k = \frac{10}{3}$$

If $\overrightarrow{A} = (k+1\ ,\ 1)$, $\overrightarrow{B} = (2\ ,\ k)$, then values of k that make $\overrightarrow{A} \mathbin{/\!/} \overrightarrow{B}$ are ....

(a) -2 , zero (b) 1 , 2 (c) -2 , 1 (d) $-\frac{2}{3}$

$$\tan\theta_1 = \tan\theta_2$$

$$\frac{1}{k+1} = \frac{k}{2}$$

$$k^2 + k = 2$$

$$k^2 + k - 2 = 0 \quad \begin{cases} 1 \\ -2 \end{cases}$$

If $\overrightarrow{A} = 20\,\overrightarrow{i} - 15\,\overrightarrow{j}$, $\overrightarrow{B} = 7\,\overrightarrow{i} + 24\,\overrightarrow{j}$ and $\overrightarrow{M} = \overrightarrow{A} + \overrightarrow{B}$, $\overrightarrow{N} = \overrightarrow{A} - \overrightarrow{B}$, then ....

(a) $\overrightarrow{M} \parallel \overrightarrow{N}$ (b) $\overrightarrow{M} \perp \overrightarrow{N}$ (c) $\overrightarrow{M} = \overrightarrow{N}$ (d) $\|\overrightarrow{M}\| = \|\overrightarrow{N}\|$

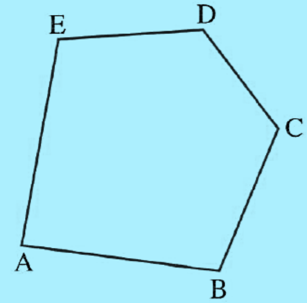
$\overrightarrow{M} = (20, -15) + (7, 24) = (27, 9)$

$\overrightarrow{N} = (20, -15) - (7, 24) = (13, -39)$

$m_1 = \frac{9}{27} = \frac{1}{3}$ $\quad$ $m_2 = \frac{-39}{13} = -3$

In the opposite figure :

All the following express $\overrightarrow{AE}$ except ....



(a) $\overrightarrow{AC} + \overrightarrow{CD} + \overrightarrow{DE}$ $= \overrightarrow{AE}$

(b) $\overrightarrow{AB} + \overrightarrow{BD} + \overrightarrow{ED}$

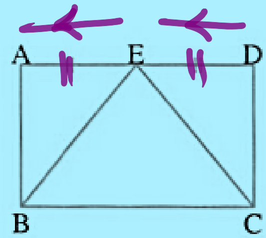
(c) $\overrightarrow{AD} + \overrightarrow{DE}$

(d) $\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CD} + \overrightarrow{DE}$

In the opposite figure :

ABCD is a rectangle , E is the midpoint of $\overline{AD}$

, then $\overrightarrow{EB} + \overrightarrow{BA} - \overrightarrow{DC} =$ ……………



(a) $\overrightarrow{EB}$

(b) $\overrightarrow{BE}$

(c) $\overrightarrow{EC}$

(d) $\overrightarrow{CE}$

$[\overrightarrow{EB} + \overrightarrow{BA}] + \overrightarrow{CD}$

$\overrightarrow{EA} + \overrightarrow{CD}$

$\overrightarrow{DE} + \overrightarrow{CD} = \overrightarrow{CD} + \overrightarrow{DE}$

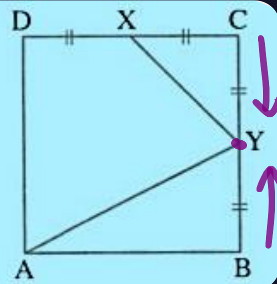
$= \overrightarrow{CE}$

In the opposite figure :

ABCD is a square and $\overrightarrow{AY} + \overrightarrow{XY} = k\,\overrightarrow{XC}$, then k = ...

(a) 1 (b) 2

(c) 3 (d) 4



$\overrightarrow{AY} + \overrightarrow{XY}$

$\Downarrow$

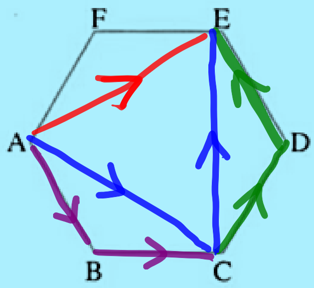
$\overrightarrow{AB} + \overrightarrow{BY} + \overrightarrow{XC} + \overrightarrow{CY}$

$2\overrightarrow{XC} + 1\overrightarrow{XC} = 3\overrightarrow{XC}$

In the opposite figure :

ABCDEF is a regular hexagon

, then $(\overrightarrow{AB} - \overrightarrow{CB}) + \overrightarrow{AF} + \overrightarrow{DE} =$ ....



(a) $\overrightarrow{FE}$

(b) $\overrightarrow{AE}$

(c) $\overrightarrow{AD}$

(d) $\overrightarrow{AC}$

$\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{AF} + \overrightarrow{DE}$

$\overrightarrow{AC} + [\overrightarrow{CD} + \overrightarrow{DE}]$

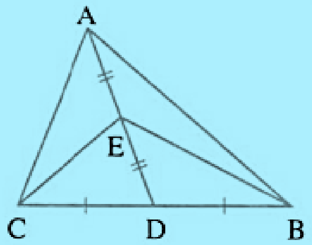
$\overrightarrow{AC} + \overrightarrow{CE} = \overrightarrow{AE}$

In the opposite figure :

ABC is a triangle , if D is the midpoint of $\overline{BC}$

, E is the midpoint of $\overline{AD}$, then

$\overrightarrow{AB} + \overrightarrow{AC} = \dots\dots\dots\dots \overrightarrow{AE}$



(a) 1 (b) 2 (c) 4 (d) – 4

$\overrightarrow{AB} + \overrightarrow{AC} = 2\,\overrightarrow{AD}$

$= 2\,(2\,\overrightarrow{AE})$

$= 4\,\overrightarrow{AE}$

In the opposite figure :

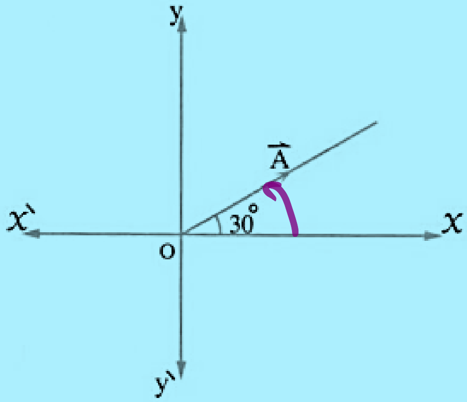
$\|\overrightarrow{A}\| = 4$ length unit , then $\overrightarrow{A} =$ ....

(a) $(2, 2\sqrt{3})$

(b) $(2\sqrt{3}, 2)$

(c) $(4, \sqrt{3})$

(d) $(\sqrt{3}, 2)$



$\overrightarrow{A} = (4, 30^\circ)$

$\overrightarrow{A} = (4\cos 30^\circ, 4\sin 30^\circ)$

$= (2\sqrt{3}, 2)$

All the following are unit vectors except ....

(a) (1 , 0) (b) (0 , – 1) (c) (0.6 , 0.8) (d) (1 , 1)

$\|\vec{A}\| = \sqrt{x^2 + y^2} = 1$

$\sqrt{1+0}$
1

$\sqrt{0+(-1)^2}$
$= 1$

$\sqrt{0.6^2 + (0.8)^2}$
$= 1$

X

In Δ ABC , A (3 , 5) , B (7 , 10) , C (2 , 3) , then the coordinates of the point of intersection of its medians is ....

(a) (4 , 6) (b) (6 , 4) (c) (6 , 9) (d) (9 , 6)

$$M = \left(\frac{3+7+2}{3} , \frac{5+10+3}{3} \right)$$

$$= (4 , 6)$$

If the position vector $\overrightarrow{A} = (\sqrt{3}, 1)$ is rotated around the origin by an angle of measure 45° clockwise , then the polar form of the vector $\overrightarrow{A}$ after rotation is ....

(a) (2 , 30°) (b) (2 , 315°) (c) (2 , 345°) (d) (2 , 15°)

$\|\overrightarrow{A}\| = \sqrt{3+1} = 2$

$\theta = \tan^{-1}\left(\frac{1}{\sqrt{3}}\right) = 30°$

If $\overrightarrow{AB} = (3, 4)$, A (– 2, 5), C divides $\overline{AB}$ by the ratio 3 : 2 externally, then C = ……………

(a) (7, 17) (b) (8, 3) (c) (– 8, 3) (d) (– 7, – 17)

$\overrightarrow{AB} = \vec{B} - \vec{A}$

$(3,4) = \vec{B} - (-2,5)$

$\vec{B} = (3,4) + (-2,5)$

$\vec{B} = (1,9)$

$\vec{r}_1 = (-2,5)$ $\vec{r}_2 = (1,9)$

$\frac{m_2}{m_1} = \frac{3}{2}$

$$\vec{r} = \frac{m_1\vec{r}_1 - m_2\vec{r}_2}{m_1 - m_2}$$

$$C = \frac{2(-2,5) - 3(1,9)}{2-3}$$

$$C = \frac{(-4,10) - (3,27)}{-1}$$

$$C = \frac{(-7,-17)}{-1}$$

$C = (7, 17)$

If C (4 , 4) divides $\overrightarrow{AB}$ internally in the ratio 1 : 2 and A (7 , 8) , then B is .... (x , y)

(a) (– 2 , – 4) (b) (1 , 2) (c) (– 1 , – 2) (d) (2 , 4)

$$\vec{C} = \frac{m_1 \vec{A} + m_2 \vec{B}}{m_1 + m_2}$$

$$\frac{m_2}{m_1} = \frac{1}{2}$$

$$(4,4) = \frac{2(7,8) + 1(x,y)}{2+1}$$

$$(12,12) = (14,16) + (x,y)$$

$$(x,y) = (12,12) - (14,16)$$

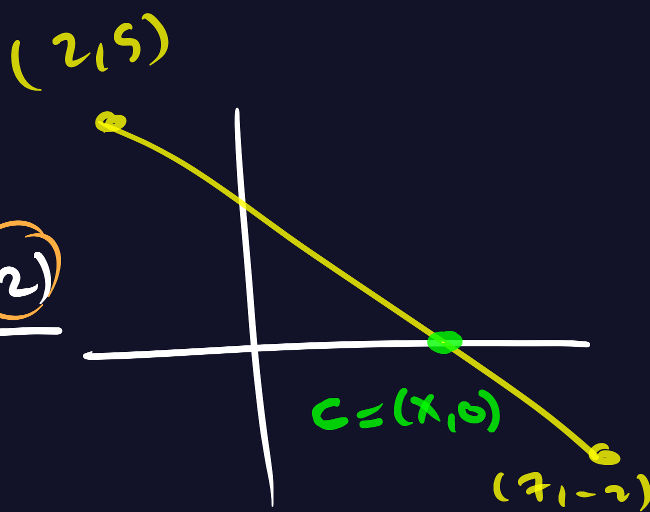
$$B = (-2,-4)$$

The ratio of division that the x-axis divides the line segment $\overrightarrow{AB}$ where A (2 , 5) , B (7 , – 2) is ....

(a) 5 : 2 internally. (b) 2 : 3 internally.

(c) 3 : 2 externally. (d) 2 : 5 externally.

$$\vec{r} = \frac{m_1\vec{r}_1 + m_2\vec{r}_2}{m_1 + m_2}$$



$$(x, 0) = \frac{m_1(2,5) + m_2(7,-2)}{m_1 + m_2}$$

$$0 = \frac{5m_1 - 2m_2}{m_1 + m_2}$$

$$5m_1 - 2m_2 = 0$$

$$5m_1 = 2m_2$$

$$\frac{m_2}{m_1} = \frac{5}{2}$$

The ratio by which the y-axis divides $\overrightarrow{AB}$ where A (2 , 5) , B (6 , 7) equals ……………

(a) 1 : 3 externally.

(b) 3 : 1 internally.

(c) 1 : 2 externally.

(d) 3 : 2 internally.

$$(0, y) = \frac{m_1(2,5) + m_2(6,7)}{m_1 + m_2}$$

$$0 = \frac{2m_1 + 6m_2}{m_1 + m_2}$$

$$2m_1 + 6m_2 = 0$$

$$2m_1 = -6m_2$$

$$\frac{m_2}{m_1} = -\frac{2}{6} = -\frac{1}{3}$$

In the opposite figure :

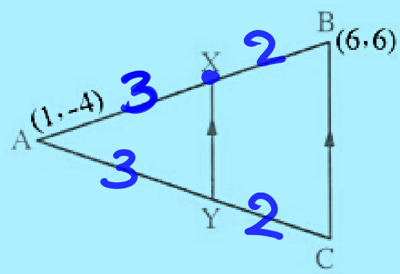
If $\overline{XY} \parallel \overline{BC}$, $\frac{AY}{AC} = \frac{3}{5}$, then X = ...

(a) (2 , 4)

(b) (4 , 2)

(c) (−2 , 4)

(d) (−4 , 2)



$$X = \frac{2(1,-4)+3(6,6)}{5} \qquad \frac{AX}{XB} = \frac{m_2}{m_1} = \frac{3}{2}$$

$$X = \frac{(2,-8)+(18,18)}{5} = \frac{(20,10)}{5}$$

$$= (4,2)$$

The vector equation of the straight line which passes through the point (– 4 , 3) and its direction vector is (2 , 5) is ....

(a) $\vec{r} = (2, 5) + k(-4, 3)$

(b) $\vec{r} = (-4, 3) + k(2, 5)$

(c) $\vec{r} = (-4, 3) + k(5, 2)$

(d) $\vec{r} = (2, 5) + k(3, -4)$

$$\vec{r} = (-4, 3) + k(2, 5)$$

In the opposite figure :

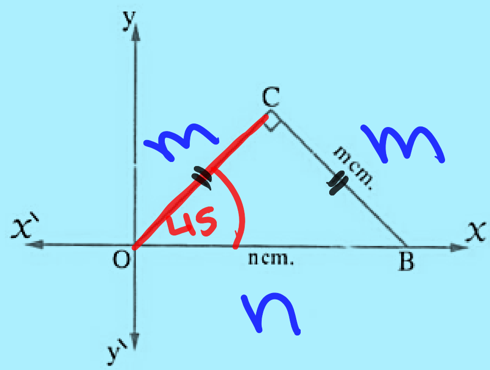
The equation of the straight line $\overleftrightarrow{OC}$ is ....

(a) $y = \frac{m}{n} x$

(b) $y = x$

(c) $y = \frac{n}{m} x$

(d) $y = mn\, x$



$y = mx$

$y = x$

slope = tan 45 = 1

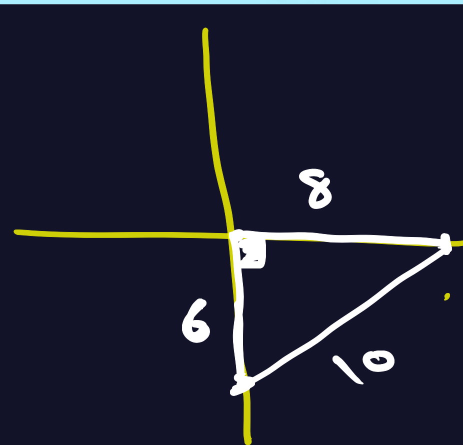
The straight line : 6 x – 8 y = 48 makes with the coordinate axes a triangle , its perimeter = …………… length unit.

(a) 48 (b) 24 (c) 12 (d) 8

$6x - 8y = 48 \quad \div 48$

$\frac{x}{8} + \frac{y}{-6} = 1$

$P = 6 + 8 + 10$

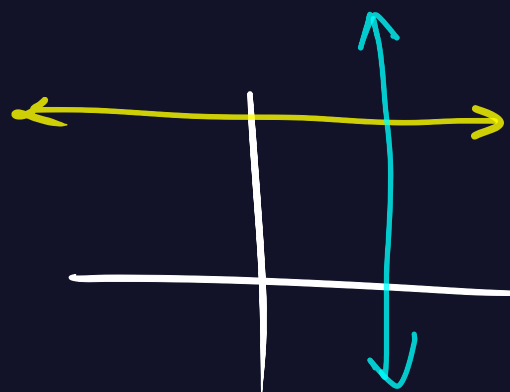


The equation of the straight line which passes through the point (3 , – 2) and is perpendicular to the straight line y = 7 is ....

(a) $x = 3$ (b) $x = 7$ (c) $y = -2$ (d) $y = 7$

equation of St. line // y-axis

$x = 3$



The parametric equations of the straight line which makes with the positive direction of the x-axis a positive angle of measure 45° and passes through the point (3 , – 5) are ....

(a) $x = 3 + k$, $y = -5 + k$
(b) $x = 3 + k$, $y = 5 + k$
(c) $x = 1 + 3k$, $y = 1 - 5k$
(d) $x = 1 - 3k$, $y = 1 + 5k$

$P = (3, -5)$ $m = \tan 45 = \frac{1}{1}$ $\vec{u}(1, 1)$

$\vec{r} = (3, -5) + k(1, 1)$

$x = 3 + k$ & $y = -5 + k$

If A (1 , – 2) , B (3 , – 1) , then the equation of the straight line which divides $\overrightarrow{AB}$ by ratio 3 : 1 internally and perpendicular to $\overrightarrow{AB}$ is ....

(a) $4x + 2y = 5$ (b) $4x + 2y = 15$ (c) $8x + 4y = 5$ (d) $8x + 4y = 15$

$$C = \frac{m_1\vec{r_1} + m_2\vec{r_2}}{m_1 + m_2} \qquad \frac{m_2}{m_1} = \frac{3}{1}$$

$$C = \frac{1(1,-2) + 3(3,-1)}{1+3} = \frac{(1,-2) + (9,-3)}{4}$$

$$C = \frac{(10,-5)}{4} = \left(\frac{5}{2}, \frac{-5}{4}\right)$$

$A = (1,-2)$ & $B = (3,-1)$ $\quad$ Slope $= \frac{-1+2}{3-1} = \frac{1}{2}$

Slope of L $= -2$

$$\frac{y + \frac{5}{4}}{x - \frac{5}{2}} = \frac{-2}{1} \Rightarrow y + \frac{5}{4} = -2x + 5$$

$$2x + y = \frac{15}{4} \qquad \boxed{\times 4}$$

$$8x + 4y = 15$$

In the opposite figure :

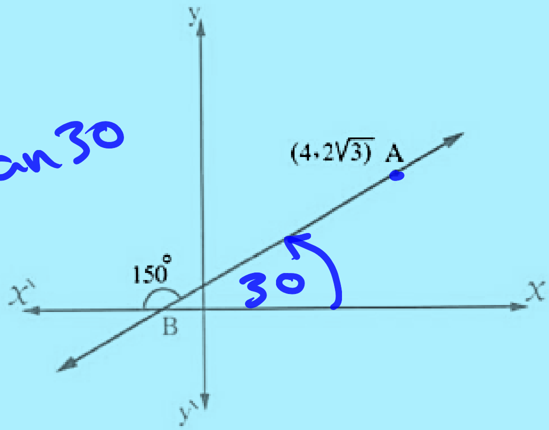
The equation of $\overleftrightarrow{AB}$ is ....

(a) $x - \sqrt{3}\,y - 1 = 0$

(b) $x - \sqrt{3}\,y + 2 = 0$

(c) $\sqrt{3}\,x + y - \sqrt{3} = 0$

(d) $3x - \sqrt{3}\,y - 6 = 0$



$A = (4, 2\sqrt{3})$

$m = \tan\theta = \tan 30 = \frac{1}{\sqrt{3}}$

$$\frac{y - 2\sqrt{3}}{x - 4} = \frac{1}{\sqrt{3}}$$

$$x - 4 = \sqrt{3}\,y - 6$$

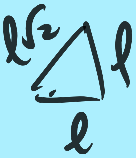
$$x - \sqrt{3}\,y + 2 = 0$$

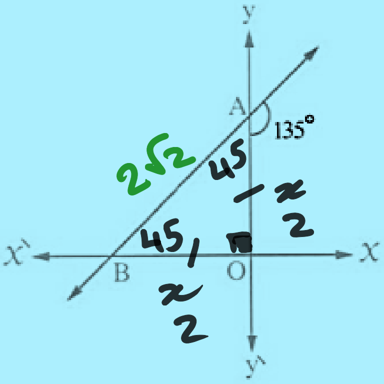
In the opposite figure :

If the length of $\overline{AB} = 2\sqrt{2}$ length units

, then the equation of the straight

line $\overleftrightarrow{AB}$ is ....





(a) $\frac{x}{2} + \frac{y}{2} = 1$ (b) $\frac{x}{2} - \frac{y}{2} = 1$

(c) $\frac{x}{2} - \frac{y}{2} = -1$ (d) $\frac{x}{2} + \frac{y}{2} = -1$

$$\frac{x}{-2} + \frac{y}{2} = 1$$

X −1

$$\frac{x}{2} - \frac{y}{2} = -1$$

The measure of the angle between the two straight lines $L_1 : x + 2y + 5 = 0$, $L_2 : \vec{r} = (1, 4) + k(1, 2)$ equals ……………

(a) zero (b) 45° (c) 90° (d) 135°

$$\tan\theta = \left|\frac{m_1 - m_2}{1 + m_1 m_2}\right|$$

$m_1 = \frac{-1}{2}$

$m_2 = \frac{2}{1}$

$L_1 \perp L_2$

$2x + y = 3$

The measure of the acute angle between the two straight lines

$L_1 : \vec{r} = (2 , 5) + k(-3 , 1)$, $L_2 : 2x = 3 - y$ equals ....

(a) 30° (b) 45° (c) 60° (d) 50°

$m_1 = -\frac{1}{3}$

$m_2 = \frac{-2}{1} = -2$

$$\tan\theta = \left|\frac{m_1 - m_2}{1 + m_1 m_2}\right|$$

$$= \left|\frac{-\frac{1}{3} + 2}{1 + (\frac{-1}{3})(-2)}\right| = 1$$

$$\theta = \tan^{-1}(1) = 45^\circ$$

The set of values of k which makes the measure of the acute angle between the two straight lines $x + k y - 8 = 0$, $2x - y - 5 = 0$ equals $\frac{\pi}{4}$ is ....

(a) $\{3, -\frac{1}{3}\}$ (b) $\{-3, \frac{1}{3}\}$ (c) $\{3, \frac{1}{3}\}$ (d) $\{3\}$

$\tan\theta = \left|\frac{m_1 - m_2}{1 + m_1 m_2}\right|$

$m_1 = \frac{-1}{k}$

$m_2 = \frac{-2}{-1} = 2$

$\tan\theta = 1$

$\left|\frac{\frac{-1}{k} - 2}{1 + (-\frac{1}{k})(2)}\right| = 1$

$\left|\frac{-\frac{1}{k} - 2}{1 - \frac{2}{k}}\right| = 1$

$\frac{-\frac{1}{k} - 2}{1 - \frac{2}{k}} = 1$

$-\frac{1}{k} - 2 = 1 - \frac{2}{k}$ $\times k$

$-1 - 2k = k - 2$

$-2k - k = -2 + 1$

$-3k = -1 \Rightarrow k = \frac{1}{3}$

$\frac{-\frac{1}{k} - 2}{1 - \frac{2}{k}} = \frac{-1}{1}$

$-\frac{1}{k} - 2 = -1 + \frac{2}{k}$ $\times k$

$-1 - 2k = -k + 2$

$-2k + k = 2 + 1$

$-k = 3$

$k = -3$

The length of the perpendicular drawn from the point (– 1 , 4) to the y-axis equals ……………. length unit.

(a) 7 (b) – 1 (c) 1 (d) 4

$|-1| = 1$

The length of the perpendicular drawn from the point (– 2 , – 4) to the straight line $\vec{r} = (3, 0) + k(6, 8)$ equals …………… length units.

(a) 1.6 (b) 2.6 (c) 0.6 (d) 3.6

(3, 0) $m = \frac{8}{6} = \frac{4}{3}$

$\frac{y - 0}{x - 3} = \frac{4}{3} \Rightarrow 4x - 12 = 3y$

$4x - 3y - 12 = 0$ (–2, –4)

$L = \frac{|4(-2) - 3(-4) - 12|}{\sqrt{4^2 + (-3)^2}} = \frac{8}{5}$

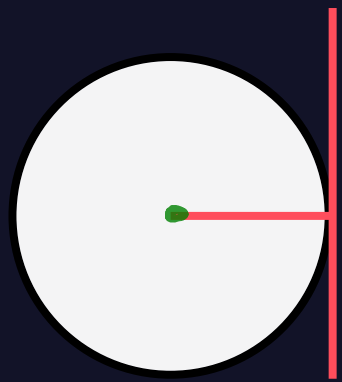
$= 1.6$ L.u.

The area of the circle with centre (4 , – 1) and touches the straight line $L : \vec{r} = (1 , 1) + k\,(12 , 5)$ equals .... square units.

(a) 8π (b) 9π (c) 6π (d) 3π

(1,1) $m = \frac{5}{12}$

$\frac{y-1}{x-1} = \frac{5}{12}$



$5x - 5 = 12y - 12$

$5x - 12y + 7 = 0$

$$r = \frac{|5(4) - 12(-1) + 7|}{\sqrt{(5)^2 + (-12)^2}} = \frac{39}{13}$$

$= 3$ L.u.

$A = \pi r^2 = \pi (3)^2$

$= 9\pi$

The distance between the two straight lines $3x - 4y + 20 = 0$, $3x - 4y + 10 = 0$ equals …………… length unit.

(a) 2 (b) 3 (c) 4 (d) 5

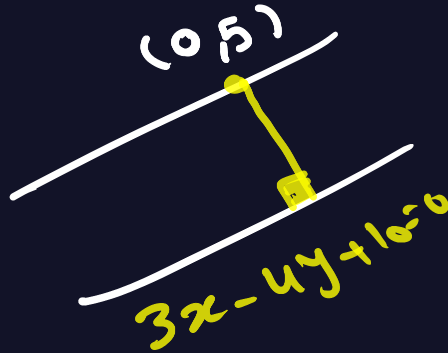
$0 - 4y + 20 = 0$

$-4y = -20$

$y = 5$

$$L = \frac{|3(0) - 4(5) + 10|}{\sqrt{9 + 16}}$$

$= 2$



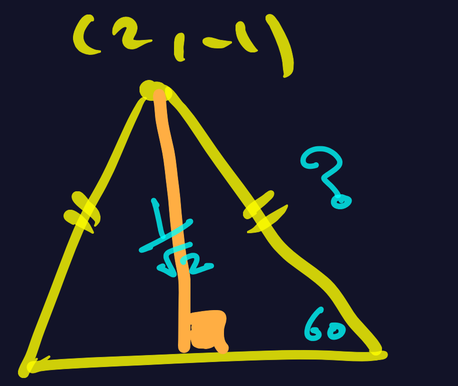
ABC is an equilateral triangle in which A (2 , − 1) and the equation of $\overleftrightarrow{BC}$ is $x + y = 2$, then the length of any side of Δ ABC = ... length unit.

(a) $\frac{\sqrt{2}}{2}$ (b) $\frac{\sqrt{6}}{2}$ (c) $\frac{\sqrt{6}}{3}$ (d) $\sqrt{2}$

$$L = \frac{|(2) + (-1) - 2|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}}$$

$$\frac{\sin 60}{1} = \frac{\frac{1}{\sqrt{2}}}{hyp}$$

$$hyp = \frac{\frac{1}{\sqrt{2}} \times 1}{\sin 60} = \frac{\sqrt{6}}{3}$$



$x + y - 2 = 0$

The equation of the straight line which passes through the point (3 , 4) and the point of intersection of the two lines $L_1 : 3x + 2y - 7 = 0$, $L_2 : \vec{r} = (-2 , 0) + k (3 , 2)$ is ....

(a) $x - y + 1 = 0$

(b) $x - y + 2 = 0$

(c) $x + y - 1 = 0$

(d) $x + y + 2 = 0$

$(-2, 0)$ $m = \frac{2}{3}$

$\frac{y}{x+2} = \frac{2}{3}$

$2x + 4 = 3y$

$2x - 3y = -4$

$3x + 2y = 7$

$(1, 2)$ & $(3, 4)$

$m = \frac{4-2}{3-1} = 1$

$\frac{y-2}{x-1} = 1$

$x - 1 = y - 2$

$x - y + 1 = 0$

BEST WISHES

MR. MICHAEL GAMIL