

$A \begin{vmatrix} -p \\ k \end{vmatrix} \quad B \begin{vmatrix} k \\ m \end{vmatrix} \quad m_{AB} = \frac{1}{p} = \frac{m-k}{k+p} \rightarrow \frac{1}{p} = \frac{k-m}{k+p} \rightarrow k-m=p \quad (1)$

$d_{AB} = \sqrt{(k-m)^2 + (-p-k)^2} = \sqrt{k^2 + p^2} \quad S_{\square} = (\sqrt{k^2 + p^2})^2 = k^2 + p^2$

$x_A + x_C = x_D + x_B \rightarrow -1 + x = p - 1 - x \rightarrow x = \frac{p}{2}$

$m_{AB} \times m_{AD} = -1 \rightarrow -\frac{p}{k} \times \frac{1-y}{x-\frac{p}{2}} = -1 \Rightarrow y = -1$

$A \begin{vmatrix} -1 \\ k \end{vmatrix} \quad B \begin{vmatrix} p \\ 1 \end{vmatrix} \quad d_{AB} = \sqrt{9+14} = 5$
 $D \begin{vmatrix} -\frac{p}{2} \\ -p \end{vmatrix} \quad C \begin{vmatrix} \frac{p}{2} \\ -1 \end{vmatrix} \quad d_{BC} = \sqrt{\frac{9}{4} + \frac{14}{4}} = \frac{5}{2}$
 $P = 10 + 5 = 15$

$y = -\frac{pm}{m^2-1} + \frac{p}{m^2-1} \quad \tan 45^\circ = \sqrt{p} \Rightarrow \frac{pm}{m^2-1} = \sqrt{p}$

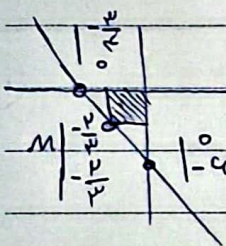
$m \rightarrow \frac{\sqrt{p}}{p} \rightarrow \text{مقدار} = \left| \frac{p\sqrt{p}}{p} + \frac{\sqrt{p}}{p} \right| = \frac{2\sqrt{p}}{p}$

$A \begin{vmatrix} 1 \\ a \end{vmatrix} \quad B \begin{vmatrix} p \\ p \end{vmatrix} \quad y_{BC} = px - p \quad d_{AH} = \frac{|a-p+p|}{\sqrt{a}} = \frac{a}{\sqrt{a}} = \sqrt{a}$

$B = BCLAB \rightarrow k - px = vx - 1a \rightarrow 11x = 3p \quad x = \frac{3p}{11} \quad y = 1$
 $d_{BH} = \frac{|k-a-1v|}{a} = \frac{k-k}{a} = 0$

$y_1 = -1x - 4 \quad y_2 = x \rightarrow -1x - 4 = x \rightarrow x = -\frac{p}{2} \quad y = -\frac{p}{2}$

$y_p = x \rightarrow \text{مقدار} = \sqrt{\frac{1}{9}} = \frac{\sqrt{p}}{3}$

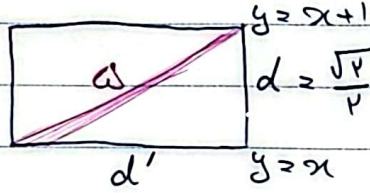


$$\left. \begin{array}{l} y = ax + 1 \\ y = \frac{x}{a} + \frac{a-1}{a} \end{array} \right\} a = \frac{1}{a} \rightarrow a = \pm 1$$

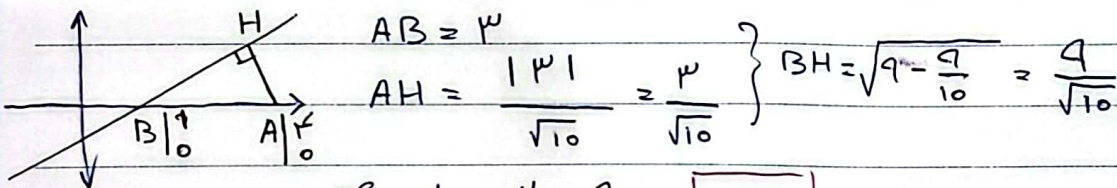
(V)

$a = -1 \rightarrow$ ~~خط مستقیم~~ $y = -x + 1$ ~~و خط~~ $y = \frac{x}{-1} + \frac{-1-1}{-1} = -x + 2$

$$a = 1 \rightarrow \begin{cases} y = x + 1 \\ y = x \end{cases}$$



$$d = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \quad d' = \sqrt{2a-1} = \frac{\sqrt{2}}{2} \rightarrow S = \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \boxed{\frac{1}{2}}$$



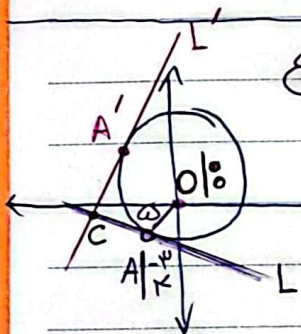
(A)

$$S = \frac{1}{2} \times \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \boxed{\frac{1}{4}}$$

$$m = \frac{a-b}{-\frac{1}{4}} = \sqrt{2} \rightarrow b-a = \frac{\sqrt{2}}{4}$$

(4)

$$d = \sqrt{\frac{1}{4} + \frac{1}{4}} = \frac{1}{2} \quad \text{مساحت} = \sqrt{2} \times \frac{1}{2} = \boxed{\frac{\sqrt{2}}{2}}$$



$$S_{\text{مربع}} = a \cdot \frac{1}{m_L} \cdot AO = \frac{0+1}{0+1} = \frac{1}{1}$$

(b)

$$y_L = -\frac{1}{1}x - \frac{1}{1} \quad y_{L'} = \frac{1}{1}x + \frac{1}{1}$$

$$\begin{cases} 12y + 9x = -10 \\ 12y - 14x = 100 \end{cases} \rightarrow \begin{cases} 10x = -110 \\ x = -11 \end{cases} \rightarrow x_C = -11 \quad y_C = -1$$

$$x_C \times y_C = \boxed{-11}$$