نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

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$y-k=\frac{-1}{2}(x+2) \to y=\frac{-1}{2}x+1<-1$

$y-m=\frac{-1}{2}(x-4) \to y=\frac{-1}{2}x+m+2$

$\Rightarrow k-1=m+2$

$1<-m=3$

$AB=\sqrt{\Delta x^2+\Delta y^2}=\sqrt{(-2-4)^2+(\frac{k-m}{2})^2}=\sqrt{36+9}=3\sqrt{5}$

$\to S=AB^2=(\sqrt{45})^2=45$

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$x_A+x_C=x_B+x_D \to -1+x=3-1 \Rightarrow 2x=4 \to x=\frac{3}{2}$

$AB\perp BC \to m_{AB}\times m_{BC}=-1 \to m_{AB}=\frac{4-1}{-1-3}=\frac{-3}{4} \to m_{BC}=\frac{4}{3}=\frac{y-1}{\frac{3}{2}-3}$

$\Rightarrow y=-1$

$AB=\sqrt{3^2+4^2}=5$

$BC=\sqrt{2^2+(\frac{3}{2})^2}=\frac{5}{2}$

$\to$ محیط مستطیل $=2(AB+BC)=2(5+\frac{5}{2})=15$

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$m=\tan 60^\circ=\sqrt{3} \to 2mx+(m^2-1)y=3 \Rightarrow \frac{-2m}{m^2-1}=\sqrt{3}$

$\to -2m=\sqrt{3}m^2-\sqrt{3} \Rightarrow \sqrt{3}m^2+2m-\sqrt{3}=0$

$\frac{\sqrt{5}}{|a|}=\frac{\sqrt{4+4\times\sqrt{3}\times\sqrt{3}}}{\sqrt{3}}=\frac{4}{\sqrt{3}}=\frac{4\sqrt{3}}{3}$

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$m_{BC}=\frac{11-3}{7-3}=\frac{8}{4}=2 \to y-3=2(x-3) \to y=2x-3$

$\to d=\frac{|2-9-3|}{\sqrt{4+1}}=\frac{10}{\sqrt{5}}=2\sqrt{5}$

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$B\begin{cases}(y+2x=7)\times 2\\ 2y-7x=-19\end{cases} \to y=+1 \ , \ x=+3$

$BH=\frac{|4y-3x-17|}{\sqrt{4^2+3^2}}=\frac{|4+4-9-17|}{5}=\frac{22}{5}=4,4$

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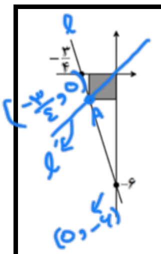

$m_l = \frac{0-(-6)}{-\frac{3}{4}-0} = -8 \rightarrow l: y = -8x-6$

$l': y = x$

$\xrightarrow{A} -8x-6 = x$

$9x = -6 \rightarrow x = \frac{-6}{9} = \frac{-2}{3}$

$y = \frac{-2}{3}$

$\rightarrow A(-\frac{2}{3}, -\frac{2}{3}) \longrightarrow$ ضلع مربع $= \frac{2}{3}$

قطر $= a\sqrt{2} \rightarrow \boxed{\frac{2\sqrt{2}}{3}}$

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$\begin{cases} ay - x = a-1 \\ y - ax = 1 \end{cases} \rightsquigarrow y = \frac{x}{a} + \frac{a-1}{a}$, $y = ax+1 \rightarrow \frac{1}{a} = a \rightarrow a^2 = 1 \rightarrow a = \pm 1$

$\rightsquigarrow a = 1 \rightarrow y = x, y = x+1$ ✓

$a = -1 \rightarrow y = -x+2, y = -x+1$

$(1,2)$ صدق نشد ✗

$a = 1$ ↵

$\Rightarrow y = \frac{|c-c'|}{\sqrt{a^2+b^2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$\rightarrow 5 = \sqrt{(\frac{\sqrt{2}}{2})^2 + x^2} \rightarrow x^2 = \frac{49}{2} \rightarrow x = \frac{7}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{7\sqrt{2}}{2}$

$\rightsquigarrow S = \frac{\sqrt{2}}{2} \times \frac{7\sqrt{2}}{2} = \frac{7}{2} = \boxed{3/5}$

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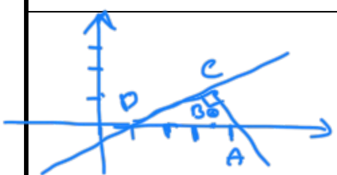

$\rightarrow d = \frac{|4-1|}{\sqrt{1+9}} = \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10}$

$m_{AC} = -3 \rightarrow y = -3(x-4) = -3x+12$

$C \Rightarrow \frac{1}{3}x - \frac{1}{3} = -3x+12 \Rightarrow x = 3/7, y = 0/9$

$\rightsquigarrow \begin{vmatrix} 3/7 & 4 & 1 \\ 0/9 & 0 & 0 \\ 1 & 1 & 1 \end{vmatrix} = 0/9 - 3/6 = -2/7 \rightsquigarrow S = \frac{1}{2} \times 2/7 = \boxed{1/35}$

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$m = \frac{b-a}{-\frac{1}{3} - (-\frac{1}{2})} = \frac{b-a}{\frac{1}{6}} = \sqrt{3} \Rightarrow b-a = \frac{\sqrt{3}}{6}$

$a = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{(-\frac{1}{3} - (-\frac{1}{2}))^2 + \frac{\sqrt{3}}{6}} = \sqrt{\frac{1}{36} + \frac{3}{36}} = \frac{2}{6} = \frac{1}{3}$

قطر $= a\sqrt{2} = \boxed{\frac{\sqrt{2}}{3}}$

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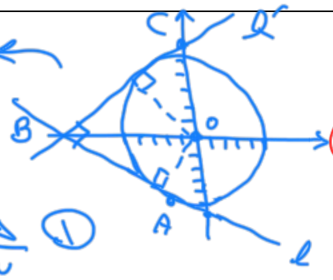
$m_{OA} = m_{l'} = \frac{4}{3} \xrightarrow{\text{عمود}} m_l = -\frac{3}{4}$

$r = \sqrt{3^2+4^2} = 5$

$\downarrow y = \frac{4}{3}x$

$y = \frac{4}{3}x + c \longrightarrow AB = \frac{c}{\sqrt{1^2 + (\frac{4}{3})^2}} = \frac{3c}{5} = 5$

① $y = \frac{4}{3}x + \frac{25}{3}$ $\longrightarrow c = \frac{25}{3}$ ①



$\xrightarrow{l} y = -\frac{3}{4}x - \frac{25}{4} \rightsquigarrow B = \begin{cases} \frac{4}{3}x_B + \frac{25}{3} \\ -\frac{3}{4}x_B - \frac{25}{4} \end{cases} \longrightarrow x_B = -7, y_B = -1$

$\rightarrow x_B \times y_B = \boxed{7}$

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