Subject:

Date:

بِه نام خدا ۲۰ تلما حسنی

۱- $AB=\sqrt{(4+2)^2+(m-4)^2}=\sqrt{9+36}=3\sqrt{5} \rightarrow AB^2=\boxed{45}$

$-\frac{1}{2}=\frac{m-4}{4+2} \rightarrow m-4=-3$ ۲

۲- $m_{AB}=m_{CD} \rightarrow \frac{4-1}{-1-3}=\frac{3}{-1-x-x} \rightarrow -1-2x=\frac{-4}{-3} \rightarrow x=\frac{3}{2}$

$m_{AB}\times m_{BC}=-1 \rightarrow -\frac{3}{4}\times\frac{1-y}{\frac{3}{2}}=-1 \rightarrow 1-y=2 \rightarrow y=-1$ ۲

$AB=\sqrt{(3+1)^2+(1-4)^2}=5$

$BC=\sqrt{(3-\frac{3}{2})^2+(1+1)^2}=\sqrt{\frac{9}{4}+4}=\frac{5}{2}$ $P=(5+\frac{5}{2})\times 2=\boxed{15}$

۳- $\tan 60=\sqrt{3} \rightarrow \frac{-2m}{m^2-1}=\sqrt{3} \rightarrow \sqrt{3}m^2+2m-\sqrt{3}=0$

۲

$|\alpha-\beta|=\frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{4+12}}{\sqrt{3}}=\boxed{\frac{4\sqrt{3}}{3}}$

۴- BC از A فاصله $\quad m = \frac{11-3}{7-3} = 2 \quad$ $y = 2x - 3$

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$AH = \frac{|-9+2-3|}{\sqrt{5}} = \frac{10\sqrt{5}}{5} = 2\sqrt{5}$

۵-
$AB \Rightarrow y = -2x + 7$
$BC \Rightarrow y = \frac{7}{2}x - \frac{19}{2}$
$\Big\} \; -2x + 7 = \frac{7}{2}x - \frac{19}{2} \longrightarrow \frac{11}{2}x = \frac{33}{2} \to x = 3,\; y = 1$

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AC از B فاصله $\longrightarrow \frac{|4-9-17|}{5} = \frac{22}{5} = 4/4$

۶- $x = y$ و $y = -8x - 6 \Longrightarrow x = -\frac{2}{3}$ و $y = -\frac{2}{3}$

۲ن

قطر $= \frac{2\sqrt{2}}{3}$

۷- $m = m' \Longrightarrow \frac{1}{a} = a \to a = \pm 1 \xrightarrow{(1,2)\ \text{نقطه}} a = 1$

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$\Longrightarrow \begin{rcases} y = x \\ y = x+1 \end{rcases} \xrightarrow{\text{فاصله}} \frac{1}{\sqrt{2}} \qquad (\frac{1}{\sqrt{2}})^2 + x^2 = 5^2 \to x = \frac{7}{\sqrt{2}}$

$S = \frac{7}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{7}{2}$

۸- ارتفاع = طول یک ضلع ⟵ مثلث قائم الزاویه

(۲)

$y = \frac{1}{3}x - \frac{1}{3} \longrightarrow m' = -3 \longrightarrow y = -3x + 12$

$-3x + 12 = \frac{1}{3}x - \frac{1}{3} \longrightarrow x = \frac{37}{10},\ y = \frac{9}{10} \longrightarrow S = \frac{9}{10} \times 3 \times \frac{1}{2} = \frac{27}{20}$

۹- $\frac{a-b}{-\frac{1}{3}+\frac{1}{2}} = \sqrt{3} \longrightarrow a - b = \frac{\sqrt{3}}{6}$

(۲)

ضلع $= \sqrt{\left(-\frac{1}{3}+\frac{1}{2}\right)^2 + (b-a)^2} = \sqrt{\frac{1}{36} + \frac{3}{36}} = \frac{2}{6} = \frac{1}{3}$

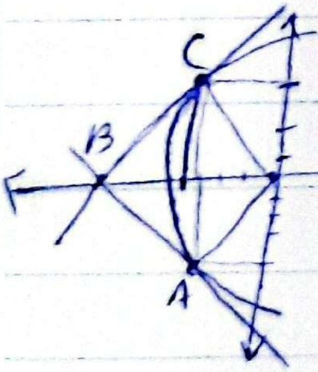
$\xrightarrow{\text{قطر}} \frac{\sqrt{2}}{3}$

۱۰- $r = 5 \qquad m_{OB} = \frac{4}{3} \longrightarrow m_{BC} = \frac{4}{3} \quad BC \to y = \frac{4}{3}x + b$

(۲)

$\frac{|3y - 4x - 3b|}{5} = 5 \longrightarrow b = \frac{25}{3}$

$b = -\frac{25}{3}$ غ ق ق $\qquad -4x + 3y - 25 \in BC$



$AD \Rightarrow y + 4 = -\frac{3}{4}(x+3)$

$\begin{cases} 3x + 4y + 25 = 0 \\ -4x + 3y - 25 = 0 \end{cases}$

$x = \frac{-75-100}{-16-9} = -7 \quad y = \frac{100-75}{-16-9} = -1 \quad xy = 7$