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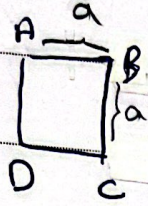
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$$A(-r, k)$$

$$B(\varepsilon, m)$$

$$m = -\frac{1}{r}$$

$$S_{\square} = ?$$



$$m = \frac{k-m}{-r-\varepsilon} \Rightarrow -\frac{1}{r} = \frac{k-m}{-\varepsilon}$$

$$\Rightarrow k-m = r$$

$$\Rightarrow \sqrt{(\varepsilon+r)^2 + (k-m)^2} \Rightarrow \sqrt{r^2 + r^2} = \sqrt{2}r$$

$$\Rightarrow S_{\square} = a^2 \Rightarrow (\sqrt{2}r)^2 = 2r^2$$

(1)

$$A(-1, \varepsilon)$$

$$B(r, 1)$$

$$C(u, y)$$

$$D(-1-u, y+r)$$

$$A(-1, \varepsilon)$$

$$B(r, 1)$$

$$D(-1-u, y+r)$$

$$C(u, y)$$

(2)

$$x-1-r-u-1 \Rightarrow 2u = r-1+1 \Rightarrow 2u = r \Rightarrow u = \frac{r}{2}$$

$$1+y+r = y+\varepsilon \Rightarrow \varepsilon = 1+r \Rightarrow m_{AB} = \frac{r-1}{-1-r} = \frac{r}{-\varepsilon} \Rightarrow m_{BC} = \frac{r}{\varepsilon} \Rightarrow \frac{\varepsilon}{r} = \frac{1-y}{\frac{r}{2}}$$

$$\Rightarrow y = -1$$

$$AB = \sqrt{1^2 + 9} = \sqrt{10} = \omega$$

$$\Rightarrow P_{\square} = r\left(\omega + \frac{\omega}{r}\right) = 10$$

$$BC = \sqrt{\varepsilon + \frac{9}{\varepsilon}} = \frac{\omega}{r}$$

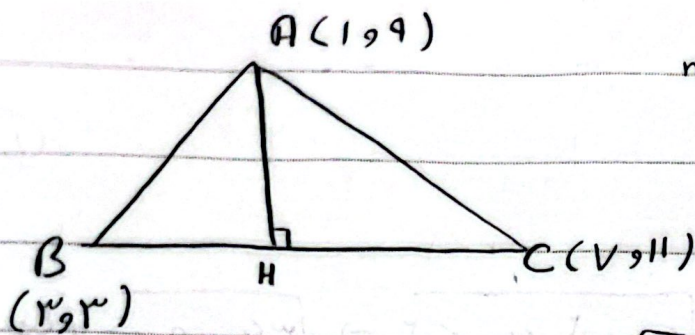
$$r mx + (m^2 - 1)y = r \Rightarrow \sqrt{r} = \frac{-rm}{m^2 - 1} \Rightarrow \sqrt{r} m^2 - \sqrt{r} = -rm$$

$$\tan \theta = \sqrt{r} = m$$

$$\Rightarrow \sqrt{r} m^2 + rm - \sqrt{r} = 0$$

$$\Rightarrow m^2 + rm - \sqrt{r} = 0 \Rightarrow \begin{cases} m = \frac{1}{\sqrt{r}} \\ m = -\frac{r}{\sqrt{r}} \end{cases}$$

$$\Rightarrow \frac{1}{\sqrt{r}} + \frac{r}{\sqrt{r}} = \frac{r}{\sqrt{r}} \Rightarrow \frac{1+r}{\sqrt{r}} = \frac{r}{\sqrt{r}}$$



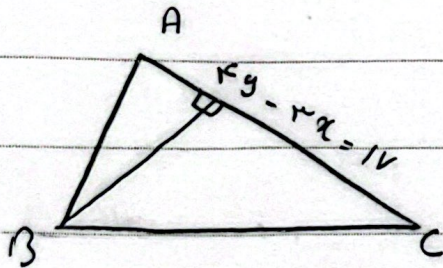
$$m_{BC} = \frac{11-3}{7-3} = \frac{8}{4} = 2 \quad (F)$$

$$\Rightarrow y - 3 = 2(x - 3) \Rightarrow y = 2x - 3$$

BC معادله

فاصله نقطه A از خط BC = ارتفاع AH

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



(د) استقامت، اسل، با حساب کنیم...

$$\begin{cases} 2y - 7x = -19 \\ y + 2x = 7 \end{cases} \Rightarrow \begin{cases} -2y - 4x = -12 \\ 2y - 7x = -19 \end{cases} \Rightarrow -11x = -31 \Rightarrow x = \frac{31}{11}$$

$$\Rightarrow x = 3, y = 1$$

$$\Rightarrow B(3, 1)$$

فاصله B از A $\Rightarrow \frac{|4 - 9 - 17|}{\sqrt{9 + 16}} = \frac{22}{5}$

طول ارتفاع BH

(ع) از فرمول راجع به دایره بر روی صفحه تقسیم ثالث

میدان $\Rightarrow$ یعنی خط

$$\frac{6-a}{6} = \frac{a}{\frac{6}{2}} \Rightarrow \frac{6-a}{6} = \frac{2a}{6} \Rightarrow$$

$$6 - a = 2a \Rightarrow 3a = 6 \Rightarrow a = \frac{6}{3} = 2$$

$$\square \text{ قطر} \Rightarrow \sqrt{2} \times \frac{2}{3} = \frac{2\sqrt{2}}{3}$$

$$\frac{x}{-\frac{6}{3}} + \frac{y}{-6} = 1 \Rightarrow \frac{4x}{-3} + \frac{y}{-6} = 1 \Rightarrow \frac{-4a}{-3} + \frac{-a}{-6} = 1$$

$$\Rightarrow \frac{4}{3}a + \frac{a}{6} = 1 \Rightarrow \frac{8a + a}{6} = 1 \Rightarrow \frac{9a}{6} = 1 \Rightarrow 9a = 6 \Rightarrow$$

$$a = \frac{6}{9} = \frac{2}{3} \Rightarrow \square \text{ قطر} = \sqrt{2} \times \frac{2}{3} = \frac{2\sqrt{2}}{3}$$

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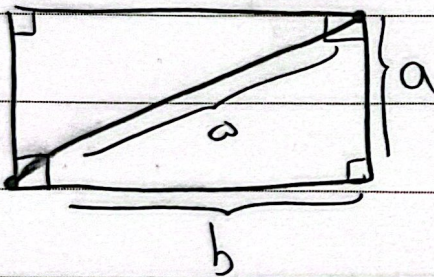
if $ay - x = a - 1$, $y - ax = 1$ (V)

$$\frac{1}{a} = \frac{-a}{1} \neq \frac{1}{a-1} \Rightarrow -a^2 = -1 \Rightarrow a^2 = 1 \Rightarrow a = \pm 1$$

$$\text{if } (a=1) \Rightarrow \begin{cases} y - x = 1 \xrightarrow{(1,2)} 2-1=1 \checkmark \\ y - x = 0 \xrightarrow{(1,2)} 2-1 \neq 0 \end{cases}$$

$$\text{if } (a=-1) \Rightarrow \begin{cases} y + x = 1 \xrightarrow{(1,2)} 1+2 \neq 1 \\ -y - x = 2 \xrightarrow{(1,2)} -1-2 \neq -2 \end{cases}$$

$$\Rightarrow \frac{|-1+2|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} = a \Rightarrow b^2 + \frac{1}{r} = 2a \Rightarrow b^2 = \frac{29}{r} \Rightarrow b = \frac{\sqrt{r}}{\sqrt{r}}$$

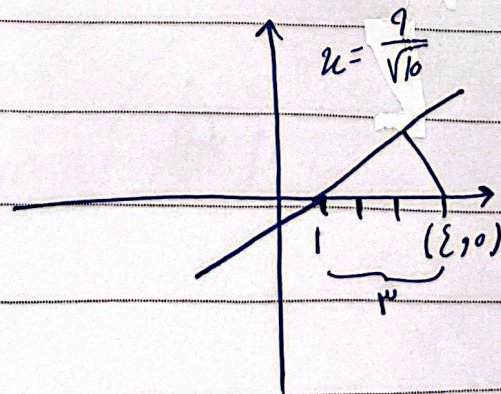


$$S_{\square} = \frac{\sqrt{r}}{\sqrt{r}} \times \frac{1}{\sqrt{r}} = \frac{\sqrt{r}}{r}$$

$$d = \frac{|2-1|}{\sqrt{1+9}} = \frac{1}{\sqrt{10}}$$

$$x = \sqrt{9 - \frac{9}{10}} = \sqrt{\frac{11}{10}} = \frac{9}{\sqrt{10}}$$

$$S = \frac{1}{r} \times \frac{1}{\sqrt{10}} \times \frac{9}{\sqrt{10}} = \frac{9}{10 \times r} = \frac{1}{10}$$



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

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$$\text{طول ضلع مربع} \Rightarrow \sqrt{\left(-\frac{1}{3} + \frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{6}\right)^2} \Rightarrow \sqrt{\frac{1}{36} + \frac{3}{36}} = \frac{1}{3}$$

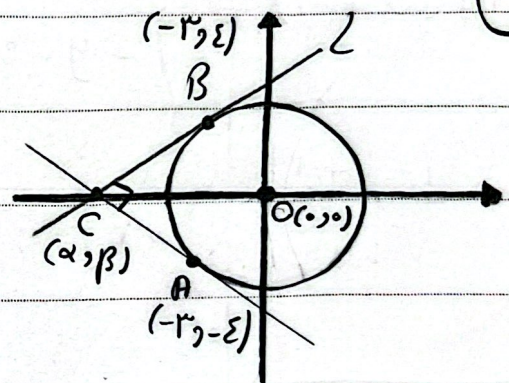
$$\text{طول قطر مربع} \Rightarrow \sqrt{2} \times \frac{1}{3} = \frac{\sqrt{2}}{3}$$

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

$$m_{OA} = \frac{1}{1} \Rightarrow m_{AC} = -\frac{1}{m_{OA}} = -1$$

$$\Rightarrow \frac{-1-\beta}{-1-\alpha} = -1 \Rightarrow \beta = -1, \alpha = -1$$

$$\Rightarrow C(-1, -1) \Rightarrow \alpha\beta = -1 \times -1 = 1$$



1a