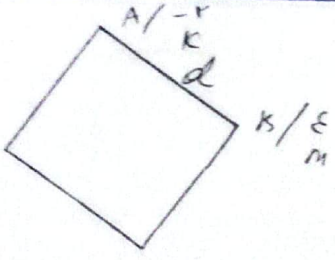


دائرة

A ليس مركز : ϵ

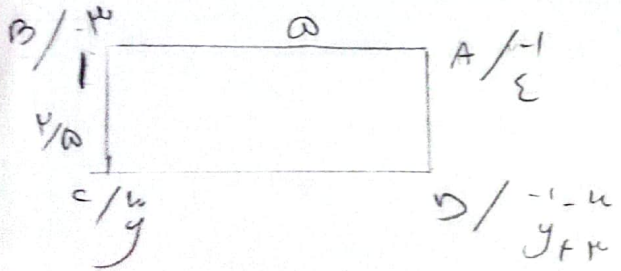


$$-\frac{1}{\gamma} = \frac{k-m}{-q} \rightarrow q = \gamma(k-m) \rightarrow k-m = \mu$$

$$d = \sqrt{A\mu^2 + B\gamma^2} = \sqrt{\mu^2 + q} \rightarrow \sqrt{\epsilon\gamma}$$

$$S = d^2 = \epsilon\gamma$$

(1)



$$u_B + u_D = u_A + u_C$$

$$1 - u = -1 + u \rightarrow u = 1/2$$

$$y_B + y_D = y_A + y_C$$

$$1 + y = \epsilon + y$$

$$r(1/2 + y) = 1/2$$

$$M_{AB} = -\frac{\mu}{\epsilon} \rightarrow M_{BC} = \frac{\epsilon}{\mu} = \frac{y-1}{\frac{1}{2}-\mu} \rightarrow -\frac{\mu}{\epsilon} = \frac{y-1}{\frac{1}{2}-\mu}$$

$$y = -1$$

(2)

$$\mu u + (\mu^2 - 1)y = \mu$$

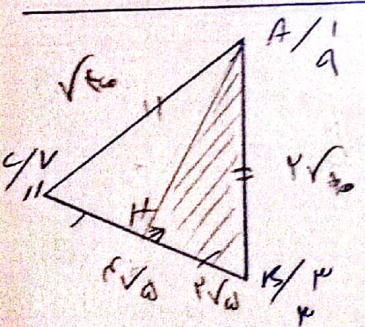
$$u = \frac{\mu}{\mu^2 - 1} = \frac{1}{\mu} \rightarrow \mu^2 u + \mu - \mu^2 = 0$$

$$\Delta = \epsilon + 14 = 14$$

$$\frac{\epsilon}{\sqrt{\mu}}$$

$$\frac{\sqrt{\Delta}}{1/2}$$

(3)



$$AH^2 + BH^2 = AB^2$$

$$AH^2 + \frac{1}{4} = \frac{1}{\mu} \rightarrow AH = \sqrt{\frac{1}{\mu} - \frac{1}{4}}$$

المساحة

(4)

$$AB: y = 1 - \mu$$

$$AC: y = \frac{1 + \mu}{\epsilon}$$

$$BC: y = \frac{\mu - 1}{\gamma}$$

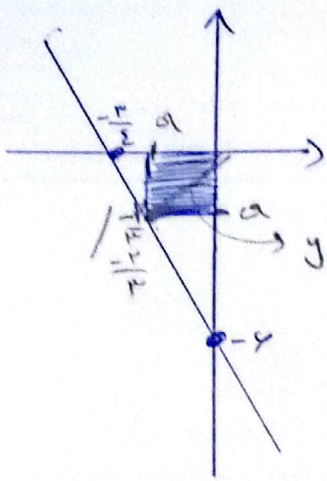
$$\begin{cases} y + \mu = 1 \\ \mu y - 1 = -1 \end{cases} \Rightarrow \mu = 1$$



$$BH = \frac{|a\mu + by + c|}{\sqrt{a^2 + b^2}} = \frac{|1 - \epsilon + \epsilon - 1|}{\sqrt{14 + 4}} = \frac{0}{\sqrt{18}} = 0$$

(5)

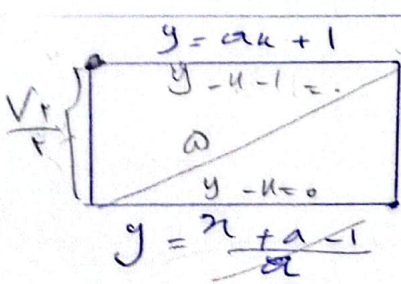
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$$\left| \frac{-\frac{y}{2}}{-x} \right| \rightarrow \frac{\frac{y}{2}}{\frac{x}{2}} \rightarrow \frac{y}{x} \rightarrow -1 \quad \boxed{y = -x - y}$$

$$1 - \frac{y}{x} = \sqrt{2 \times \frac{y}{x}} \rightarrow \sqrt{\frac{1}{x}} \rightarrow \left(\frac{\sqrt{1}}{x} \right)$$

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



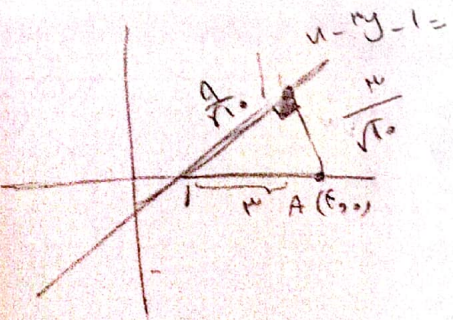
$$y = ax + 1 \quad \text{و } y = x \rightarrow a = \frac{1}{a} \rightarrow a = \sqrt{\pm 1}$$

و در این حالت، اگر فرض کنیم که $\frac{y}{x} = \frac{1}{a}$ باشد، داریم:

$$\frac{1}{a} = \frac{y}{x} = \frac{1}{\sqrt{1}} \rightarrow x = \frac{1}{\sqrt{1}}$$

$$S = \frac{1}{\sqrt{1}} \times \frac{1}{\sqrt{1}} \Rightarrow \left(\frac{1}{\sqrt{1}} \right)$$

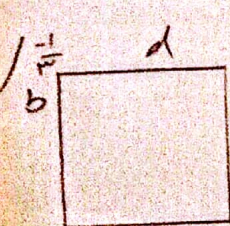
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$$d = \frac{|ax + by + c|}{\sqrt{a^2 + b^2}} = \frac{1}{\sqrt{1}}$$

$$S = \frac{1}{\sqrt{1}} \times \frac{1}{\sqrt{1}} \times \frac{1}{\sqrt{1}} \rightarrow \frac{1}{\sqrt{1}} = \frac{1}{\sqrt{1}}$$

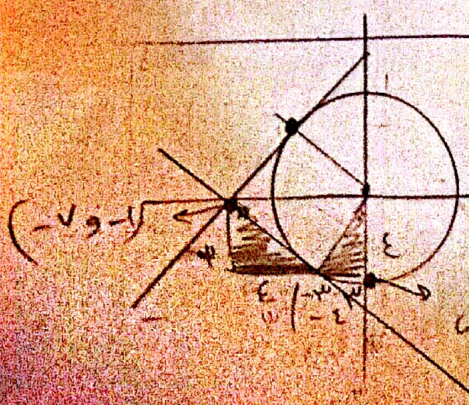
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$$d = \sqrt{\frac{1}{x^2} + \frac{1}{y^2}} = \sqrt{\frac{1}{x^2} + \frac{1}{y^2}} \rightarrow \left(\frac{1}{x^2} + \frac{1}{y^2} \right)$$

$$\boxed{d = \frac{\sqrt{2}}{2}}$$

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و در این حالت، اگر فرض کنیم که $\frac{y}{x} = \frac{1}{a}$ باشد، داریم:

(✓)