

فرضیه - ۱۸ و ۱۹

(۲۰)

گزینه ۱

Subject : ()

Date : _____

$$A \begin{vmatrix} -r \\ k \end{vmatrix} \quad B \begin{vmatrix} r \\ m \end{vmatrix}$$

$$A \begin{vmatrix} -r \\ k \end{vmatrix} \quad B \begin{vmatrix} r \\ r+k \end{vmatrix} \quad : 1$$

$$m_{AB} = -\frac{1}{r}$$

$$\frac{m-k}{r-(-r)} = -\frac{1}{r} \rightarrow m-k = -r$$

$$m = r+k$$

$$AB = \sqrt{(r)^2 + (-r)^2} = \sqrt{r^2 + r^2} = \sqrt{2}r$$

$$= r\sqrt{2}$$

$$S = (r\sqrt{2})^2 = 2r^2$$

$$A \begin{vmatrix} -1 \\ r \end{vmatrix} \quad B \begin{vmatrix} r \\ 1 \end{vmatrix} \quad C \begin{vmatrix} 2 \\ y \end{vmatrix} \quad D \begin{vmatrix} -1-2 \\ y+r \end{vmatrix}$$

: 2

$$m_{AB} = m_{CD} \Rightarrow \frac{r}{-r} = \frac{-r}{r+1} \rightarrow r+1 = r \rightarrow r = \frac{r}{r}$$

$$m_{AB} \times m_{BC} = -1 \rightarrow \frac{r}{r} \times \frac{1-y}{r} = -1 \rightarrow y = -1$$

$$C \begin{vmatrix} r \\ -1 \end{vmatrix}$$

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

$$BC = \sqrt{9 + 1} = \sqrt{10}$$

$$P = r\left(\frac{a}{r} + \frac{b}{r}\right) \Rightarrow P = a+b$$

$$r m x + (m^2 - 1) y = r$$

: 3

$$\tan \theta = \frac{y}{x} \rightarrow \frac{y}{x} = \sqrt{3}$$

$$\sqrt{3} m^2 - \sqrt{3} s = 2m$$

$$\frac{y}{x} = -\frac{a}{b} \rightarrow \frac{-2m}{m^2-1} = \sqrt{3}$$

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

$$\Delta = r + r \times \sqrt{3} \times \sqrt{3} = 1 + 3 = 4$$

$$m = \frac{-r \pm \sqrt{\Delta}}{2\sqrt{3}} \rightarrow 1) \frac{-r}{2\sqrt{3}}, 2) \frac{r}{2\sqrt{3}} \rightarrow \frac{r}{\sqrt{3}} - \frac{1}{\sqrt{3}} = \frac{r\sqrt{3} - 1}{\sqrt{3}}$$

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$$A \mid \begin{matrix} 1 \\ 7 \end{matrix} \quad B \mid \begin{matrix} 13 \\ 11 \end{matrix} \quad C \mid \begin{matrix} 19 \\ 11 \end{matrix}$$

$$m_{BC} = \frac{11-13}{19-11} = \frac{-2}{8} = -\frac{1}{4}$$

$$y = -\frac{1}{4}x + b \quad \begin{matrix} 13 \\ 11 \end{matrix} \rightarrow 13 = -\frac{1}{4}x + b \rightarrow b = 13 + \frac{1}{4}x = 13 + \frac{1}{4}(11) = 13 + 2.75 = 15.75$$

$$y = -\frac{1}{4}x + 15.75 \quad \begin{matrix} 1 \\ 7 \end{matrix} \rightarrow \frac{|1 - (-\frac{1}{4}(7) + 15.75)|}{\sqrt{\frac{1}{16} + 1}} = \frac{|1 - (-1.75 + 15.75)|}{\sqrt{1.0625}} = \frac{|1 - 14|}{1.031} = \frac{13}{1.031} \approx 12.6$$

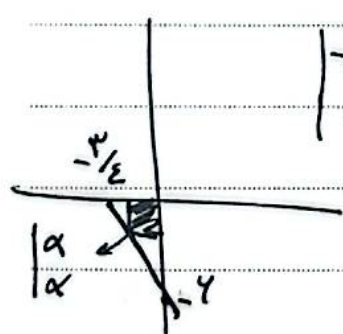
$$AB: y = -\frac{1}{4}x + 19 \quad AC: y = -\frac{1}{4}x + 14 \quad BC: y = -\frac{1}{4}x + 19$$

$$\left. \begin{array}{l} AB: y = -\frac{1}{4}x + 19 \\ BC: y = -\frac{1}{4}x + 19 \end{array} \right\} \rightarrow \begin{array}{l} -\frac{1}{4}x + 19 = -\frac{1}{4}x + 14 \\ 19 = 14 \end{array}$$

$$AC: y = -\frac{1}{4}x + 14$$

$$B \mid \begin{matrix} 13 \\ 11 \end{matrix}$$

$$\frac{|14 - (-\frac{1}{4}(11) + 14)|}{\sqrt{\frac{1}{16} + 1}} = \frac{|14 - (-1.75 + 14)|}{1.031} = \frac{|14 - 12.25|}{1.031} = \frac{1.75}{1.031} \approx 1.7$$



$$m = \frac{y}{x} = \frac{-19}{77} = -\frac{19}{77}$$

$$y = -\frac{19}{77}x + b \quad \begin{matrix} 13 \\ 11 \end{matrix} \rightarrow 13 = -\frac{19}{77}x + b \rightarrow b = 13 + \frac{19}{77}x = 13 + \frac{19}{77}(11) = 13 + 2.75 = 15.75$$

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

Arman

$$y = ax + 1$$

$$ay = x + a - 1 \rightarrow y = \frac{1}{a}x + \frac{a-1}{a}$$

$$a = \frac{1}{a} \Rightarrow a^2 = 1$$

$$a = \pm 1$$

$$\underline{a=1} \rightarrow y = x + 1 \text{ و } y = x \quad \left| \begin{array}{c} 1 \\ r \end{array} \right. \rightarrow y = x + 1$$

جواب صحیح

$$\underline{a=-1} \rightarrow y = -x + 1 \text{ و } y = -x + 2$$

جواب صحیح
مقدار $\frac{1}{a}$

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

دعوی

$$d^2 - \left(\frac{\sqrt{r}}{r}\right)^2 = (d\sqrt{r})^2$$

$$d\sqrt{r} = \frac{V}{\sqrt{r}}$$

$$S = \int \frac{1}{\sqrt{r}} dx \Rightarrow \frac{V}{\sqrt{r}} \times \frac{\sqrt{r}}{r} = \frac{V}{r}$$

$$x - 3y = 1 \rightarrow 3y = x - 1 \rightarrow y = \frac{x}{3} - \frac{1}{3} \rightarrow \frac{|x-1|}{\sqrt{1}} = \frac{r\sqrt{1}}{1}$$

A/r

$$m_{AC} = -3 \rightarrow y = -3x + b \xrightarrow{A/r} b = 12 \rightarrow y = -3x + 12$$

$$3y = x - 1, 3y = -9x + 32 \rightarrow 10x = 33 \rightarrow x = 3.3, y = 0.9$$

$$\left| \begin{array}{ccc|c} 3.3 & 3 & 1 & \\ 0.9 & . & . & \\ 1 & 1 & 1 & \end{array} \right|$$

$$\rightarrow 0.9 - 3.3 - 0 = -2.4$$

$$S = \frac{1}{r} \times 2.4 = \frac{2.4}{r}$$

— Arman —

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$$\begin{vmatrix} -\frac{1}{r} \\ a \end{vmatrix} \begin{vmatrix} -\frac{1}{r} \\ b \end{vmatrix} \quad \frac{b-a}{(-\frac{1}{r} + \frac{1}{r})} = \sqrt{r}$$

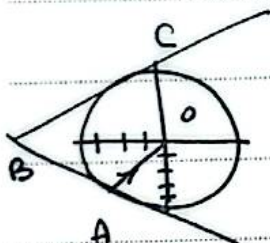
$$b-a = \frac{\sqrt{r}}{r}$$

$$\text{طول ضلع} \rightarrow \sqrt{\frac{1}{r^2} + \left(\frac{b-a}{r}\right)^2} \rightarrow \sqrt{\frac{1}{r^2} + \frac{1}{r^2}} = \sqrt{\frac{2}{r^2}}$$

$$\rightarrow \text{ضلع} \rightarrow \sqrt{2} \times \frac{\sqrt{r}}{r} = \frac{\sqrt{2} \times \sqrt{r}}{r} = \frac{\sqrt{2}}{\sqrt{r}} \rightarrow \frac{2}{r}$$

$$\begin{vmatrix} -r \\ -r \end{vmatrix}$$

$$r = \sqrt{r^2 + r^2} = d$$



$$m_{OA} = m_{BC}$$

$$\frac{r}{r}$$

$$BC \rightarrow y = \frac{r}{r}x + b \rightarrow ry = rx + rb$$

$$BC \Rightarrow y = \frac{r}{r}x + \frac{rd}{r}$$

$$BC \Rightarrow ry - rx - rd = 0$$

$$AB \Rightarrow y = -\frac{r}{r}x + b \rightarrow -r = \frac{r}{r} + b$$

$$b = -r - \frac{r}{r} = -\frac{2r}{r}$$

$$AB = rx + ry + rd$$

$$BC \text{ on } d \rightarrow \frac{|ry - rx + rb|}{\sqrt{r^2}} = d \rightarrow |rb| = rd \rightarrow b = \frac{rd}{r} \checkmark \begin{cases} rx + ry + rd \\ ry - rx - rd \end{cases}$$

— Arman

$$xy = v \left\{ \begin{aligned} x &= -\frac{-v\omega - 1}{-14 - 9} = -v \\ y &= \frac{1 - v\omega}{-14 - 9} = -1 \end{aligned} \right.$$