

Subject :

$A(-2, k) \quad B(r, m) \quad m = -\frac{1}{r}$

①

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

$$AB = \sqrt{(-r-2)^2 + (k-m)^2} = \sqrt{r^2+1} = \sqrt{4a}$$

$$S = \sqrt{4a} \times \sqrt{4a} = 4a$$

$A(-1, r) \quad B(r, 1) \quad C(x, y) \quad D(-1-x, y+1)$

②

$$x_A + x_C = x_B + x_D \Rightarrow -1+x = r-1-x$$

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

$ABCD \Rightarrow AB \perp BC \quad m_{AB} = \frac{1-r}{r+1} = -\frac{r}{r}$

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

$C(\frac{r}{2}, -1) \quad D(-\frac{r}{2}, 1)$

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

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

$$P_{\text{مسکون}} = 2(AB+BC) = 2(\frac{10+r}{2}) = 10$$

$\tan 45^\circ = \sqrt{3} \Rightarrow m \quad \frac{-2m}{m^2-1} = \sqrt{3}$

③

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

$$\frac{-2m}{m^2-1} + \frac{\sqrt{3}}{m^2-1} = 0$$

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

$$\text{اختلاف مقادیر} = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{4+12}}{1 \cdot \sqrt{3}} = \frac{4\sqrt{3}}{\sqrt{3}}$$

$$A(1, 1) \quad B(r, r) \quad C(v, 11)$$

(15)

$$m_{BC} = \frac{11-r}{v-r} = \frac{1}{r} = r$$

$$y-r = r(x-r) \quad rx - r = y$$

$$d = \frac{|r(1) - 1 - r|}{\sqrt{r^2 + 1}} = \frac{10}{\sqrt{a}} = \frac{10\sqrt{a}}{a} = r\sqrt{a}$$

$$\begin{cases} AB \cdot r_y + r_x = \sqrt{r} \\ BC: ry - vx = -11 \end{cases}$$

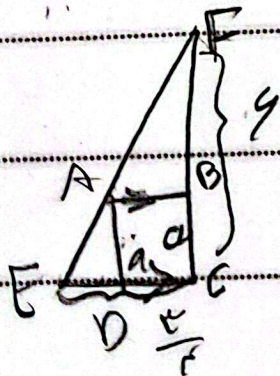
(16)

$$11x = vx \quad x = vy \quad y = 1$$

$$BH = \frac{|ry - vx - 11|}{\sqrt{r^2 + 1}} = \frac{|r - 1 - 11|}{\sqrt{r^2 + 1}}$$

$$= \frac{|-10r|}{a} = \frac{10r}{a}$$

(17)



$$\Delta ABC \Rightarrow AB \parallel CD \Rightarrow \frac{FB}{FC} = \frac{AB}{EC}$$

$$\frac{9-a}{9} = \frac{a}{\frac{11}{r}}$$

$$\Rightarrow \frac{11}{r} - \frac{ra}{r} = 9a \Rightarrow 11 - ra = 9ra$$

$$a = \frac{11}{10r} = \frac{r}{10} \quad \times va^2 = 11$$

$$10 = a\sqrt{r} \Rightarrow \frac{r\sqrt{r}}{10}$$



$$y - ax = 1 \quad ay - x = a - 1$$

(V)

اضلاع
مجاور هم $\Rightarrow$ عبارتی از $a = \frac{1}{a} \Rightarrow a^2 = \pm 1$

$$a=1 \rightarrow y+x=1 \quad y-x=0$$

$$y-1=1 \quad (1, 2)$$

$$a=-1 \rightarrow y+x=1 \quad -y-x=-1$$

(1, 2) در هیچ یک
صدق نمی کند

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

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

$$\frac{d}{2} - \frac{1}{2} = \frac{21}{2} \quad \frac{\sqrt{2}}{2} = \frac{21}{2}$$

$$S = \frac{21}{2} \times \frac{\sqrt{2}}{2} = \frac{21\sqrt{2}}{2} = \frac{21}{\sqrt{2}}$$

$$A(x, y) \quad x - y = 1$$

(A)

$$\frac{|x-1|}{\sqrt{1+1}} = \frac{21\sqrt{2}}{2} \quad y = -x + 1$$

$$\begin{cases} y = -x + 1 \\ y = \frac{1}{2}x - \frac{1}{2} \end{cases}$$

$$\begin{bmatrix} 21\sqrt{2} & 21 & 0 & 1 \\ 0 & 1 & 0 & 0 \\ 1 & 1 & 1 & 1 \end{bmatrix}$$

$$x = 21\sqrt{2}, y = 0.1$$

$$= 0.1 - 21\sqrt{2} = -21\sqrt{2}$$

$$S = \frac{1}{2} \times 21\sqrt{2} = 10.5\sqrt{2}$$

$$\left(-\frac{1}{r}, b\right) \quad \left(-\frac{1}{r}, a\right)$$

⑧

$$m = \frac{b-a}{-\frac{1}{r} + \frac{1}{r}} = \frac{b-a}{\frac{1}{r}} = \sqrt{r}$$

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

$$= \sqrt{\left(\frac{1}{r}\right)^2 + \left(\frac{\sqrt{r}}{r}\right)^2} = \frac{1}{r} \quad \text{قوس} = a\sqrt{r} = \frac{\sqrt{r}}{r}$$

$$\text{المسافة} = r \rightarrow \sqrt{r^2 + r^2} = \sqrt{2r} = a$$

⑩

$$m_{OA} = \frac{r}{r} \quad m_L = \frac{-r}{r}$$

$$\left. \begin{array}{l} OA \perp L \\ L' \perp L \end{array} \right\} L' \parallel OA \Rightarrow m_{L'} = \frac{r}{r}$$

$$OA \rightarrow y = \frac{r}{r}x \quad L' \rightarrow y = \frac{r}{r}x + C$$

$$O L' = r = a \Rightarrow \frac{C}{\sqrt{1 + \left(\frac{r}{r}\right)^2}} = \frac{rC}{a} = a \quad C = \frac{ra}{r}$$

$$L' \rightarrow y = \frac{r}{r}x + \frac{ra}{r}, \quad L \rightarrow y + r = \frac{-r}{r}(x+r)$$

$$\Rightarrow y = -\frac{rx}{r} - \frac{ra}{r}$$

$$\Rightarrow 19x_B + 122 = -9x_B - 14a \Rightarrow 28x_B = -14a$$

$$\Rightarrow x_B = -1 \quad y_B = \frac{-r1}{r} + \frac{ra}{r} = -1$$

$$x_B \alpha y_B = 1$$

