

$$A \left| \begin{smallmatrix} \epsilon \\ -4 \end{smallmatrix} \right|_1, B \left| \begin{smallmatrix} r \\ 1 \end{smallmatrix} \right|_1 \quad \text{خطوط: } y = \frac{1}{v}x + \frac{\epsilon}{v}$$

$$\rightarrow y = \frac{1}{v}x + b, \quad y_{21} \Rightarrow 1 = \frac{r}{v} + b \rightarrow b = \frac{\epsilon}{v}$$

$$B \text{ و } A \text{ نقطه‌ها} \rightarrow m: \left| \begin{smallmatrix} \epsilon & r \\ r & 1 \end{smallmatrix} \right|_1 \rightarrow m \left| \begin{smallmatrix} r \\ 1 \end{smallmatrix} \right|_1$$

$$\text{نسبت } AB = \frac{1}{AB} = \frac{1}{\frac{r - (-4)}{r - \epsilon}} = -v \rightarrow \text{نسبت } = \frac{-1}{-v} = \frac{1}{v}$$

$$A \left| \begin{smallmatrix} r \\ 1 \end{smallmatrix} \right|_1, B \left| \begin{smallmatrix} \epsilon \\ -4 \end{smallmatrix} \right|_1, C \left| \begin{smallmatrix} -1 \\ r \end{smallmatrix} \right|_1$$

$$BC = \sqrt{(v-r)^2 + (-1+1)^2} = \omega$$

$$AH = \frac{\left| 1 + \frac{\epsilon}{r}(r) - \frac{\omega}{r} \right|}{\sqrt{1 + \frac{11}{9}}} = 2$$

$$BC: y = ax + b$$

$$a = \frac{v-r}{-1-(-1)} = \frac{-\epsilon}{r}$$

$$y = \frac{\epsilon}{r}x + b \quad y_{21} \left\{ \begin{array}{l} r = \frac{\epsilon}{r} + b \\ b = \frac{\omega}{r} \end{array} \right. \rightarrow BC: y = \frac{\epsilon}{r}x + \frac{\omega}{r}$$

طول BC - طول AH = ?

$$\omega - 2 = 3$$

فاصله خط = قطر دایره $\rightarrow$ رادیوس معادل نصف قطر دایره

$$y - x = v$$

$$m_1 = m_2$$

$$\epsilon y = ax + r \quad \hookrightarrow \frac{1}{r} = \frac{a}{\epsilon} \rightarrow a = r$$

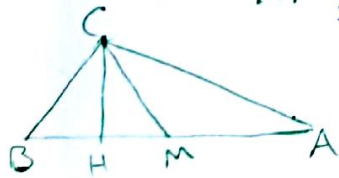
$$\epsilon y - rx = r \rightarrow ry - x = 1$$

$$\text{فاصله خط} = \frac{|v-1|}{\sqrt{r^2+1}} = \frac{4\sqrt{5}}{\omega}$$

$$\rightarrow R = \frac{4\sqrt{5}}{\omega} \quad R^2 = \frac{9}{\omega}$$

$$\text{مساحت دایره: } \pi R^2 = \frac{9}{\omega} \pi$$

$$A \left| \begin{smallmatrix} r \\ 1 \end{smallmatrix} \right|_1, B \left| \begin{smallmatrix} \epsilon \\ -4 \end{smallmatrix} \right|_1, C \left| \begin{smallmatrix} -1 \\ r \end{smallmatrix} \right|_1 \quad \frac{\sqrt{(r-1)^2 + (\frac{\epsilon}{r}-1)^2}}{\frac{\sqrt{r^2+1}}{r}} = \frac{\sqrt{r^2}}{r}$$



$$a = \frac{r-1}{r-\epsilon} = -1$$

$$AB: y = ax + b \rightarrow y = -x + b \quad y_{21} \left\{ \begin{array}{l} r = -r + b \\ b = \omega \end{array} \right. \rightarrow y = -x + \omega$$

$$CH: y = a'x + b' \rightarrow y = x + b' \quad y_{21} \left\{ \begin{array}{l} -r = 1 + b' \\ b' = -r \end{array} \right. \rightarrow y = x - r$$

$$a' = \frac{-1}{a} = 1$$

$$H \rightarrow \text{بروز خط} \rightarrow -x + \omega = x - r \rightarrow x = \frac{\omega}{2} \quad y = \frac{r}{2}$$

$$\text{دوطرفه هم عمود است} \quad a_1 = \frac{1}{a_r}$$

$$(m+1)x - (rm-\epsilon)y + 1 = 0 \quad a_1 = \frac{m+1}{rm-\epsilon}$$

$$(rm-r)x + (\omega-m)y - v = 0 \quad a_r = \frac{rm-r}{m-\omega}$$

$$\rightarrow \frac{m+1}{rm-\epsilon} = \frac{\omega-m}{rm-r}$$

$$rm^2 + m - r = -rm^2 + \epsilon m - r$$

$$\omega m^2 - 11m + 11 = 0 \rightarrow \Delta < 0$$

m?

مقدار m

$AB: x+y \geq 2, y \leq x$
 $AC: y = x-1$
 $BC: x+y \geq 4$

$A: AB, AC \rightarrow \frac{x-y}{2} = x-1 \rightarrow \begin{vmatrix} x \\ y \end{vmatrix} = 1$
 $B: AB, BC \rightarrow \frac{x-y}{2} = x-2 \rightarrow \begin{vmatrix} x \\ y \end{vmatrix} = 2$
 $C: AC, BC \rightarrow x-1 \geq 4-x \rightarrow \begin{vmatrix} x \\ y \end{vmatrix} = \frac{5}{2}$

$M: CB \rightarrow M \begin{vmatrix} \frac{x+y}{2} \\ -1+\frac{y}{x} \end{vmatrix}$
 $\rightarrow M \begin{vmatrix} \frac{1}{2} \\ \frac{y}{x} \end{vmatrix}$

$\frac{AM}{AH} = ? \quad \frac{M \in A}{BC \in A} = \frac{\sqrt{(\frac{1}{2}-1)^2 + (\frac{5}{2}-1)^2}}{\frac{1^2+1^2}{\sqrt{2}}} = \frac{\frac{\sqrt{5}}{2}}{\frac{\sqrt{2}}{\sqrt{2}}} = \frac{\sqrt{5}}{2} = \frac{\omega}{2}$

شیب خطی $-\frac{1}{2}$ است $\rightarrow y = -\frac{1}{2}x + b$

فاصله مبدأ خط $\rightarrow \frac{|b|}{\sqrt{1+\frac{1}{4}}} = \sqrt{2} \rightarrow |b| = \omega \rightarrow b = \pm \omega \rightarrow$ برای راستی شیب فرض کنیم $\rightarrow y = -\frac{1}{2}x + \omega$

$\rightarrow$ طول از مبدأ $= \omega$ شیب از مبدأ $= 1$

فاصله نقطه برقرار $? \quad \begin{vmatrix} \omega \\ 1 \end{vmatrix} \rightarrow \text{فاصله} = \sqrt{1 + \omega^2} = \omega\sqrt{2}$

فاصله بین ۲ خط و معادله محصور است $\rightarrow$ مساحت

اختلاف طول از مبدأ $= \frac{\omega}{2}$

$y + mx = x + 2 \rightarrow y = (1-m)x + 2$
 $my - \epsilon x = 2m \rightarrow y = \frac{\epsilon x + 2m}{m} = \frac{\epsilon}{m}x + 2$

طول از مبدأ $= \frac{-2}{1-m}$

$\left| \frac{-2}{1-m} - \frac{-2m}{\epsilon} \right| = \frac{\omega}{2} \rightarrow \left| \frac{-m\epsilon - 4}{2-m} \right| = \frac{\omega}{2}$

طول از مبدأ $= \frac{-2}{\frac{\epsilon}{m}} = \frac{-2m}{\epsilon}$

حاصل ضرب $= \frac{c}{a} \times \frac{c'}{a'} = \frac{-18}{-2} \times \frac{2}{-2} = -9$

$-2 \rightarrow -4 \rightarrow -9$

قمری خطی به نقطه؟

$y = 2x - 2$

قمری $y = 2x - 2$
 شیب $y' = 2x' - 4 \rightarrow y'' = 2x'' - 4$

$M \begin{vmatrix} 2 \\ -2 \end{vmatrix} \quad y' = 2x' + b$
 $-2 = 2(-2) + b$
 $b = 2$

$\rightarrow y' = 2x' - 4$

قمری $y = 2x + \omega$ شیب $\rightarrow y' = -x' + b$
 $2 = -1 + b \rightarrow b = 3$

$A' \begin{vmatrix} a \\ b \end{vmatrix}$

$\begin{vmatrix} 1 \\ 2 \end{vmatrix} \rightarrow \begin{vmatrix} -1 \\ 3 \end{vmatrix} \rightarrow A' \begin{vmatrix} -2 \\ 4 \end{vmatrix} \rightarrow a = -2, b = 4$

$2a - b = ? \quad 2(-2) - 4 = -8$