

A (-2, k) B (4, m)  $\frac{2}{-1} = -\frac{1}{m}$

(۱)

$m = \frac{\Delta y}{\Delta x} \rightarrow \frac{k-m}{-2-4} = -\frac{1}{m} \rightarrow k-m = \frac{4}{m} = 4$

$\sqrt{(k-m)^2 + (-2-4)^2} = \sqrt{4 + 36} = \sqrt{40} \leftarrow$  طول وتر

$\sqrt{40} \times \sqrt{40} = 40 \leftarrow S$

A (-1, 4)

AB || CD  $\Rightarrow m_{AB} = m_{CD} \Rightarrow \frac{4}{-1} = -\frac{3}{m+1}$

B (3, 1)

AB  $\perp$  AC  $\Rightarrow m_{AB} \times m_{AC} = -1$

C (m, y)

$-\frac{4}{-1} \times \frac{1-y}{m+1} = -1 \Rightarrow \frac{4(1-y)}{m+1} = -1 \Rightarrow 4(1-y) = -m-1 \Rightarrow 4-4y = -m-1 \Rightarrow 4y = 5+m \Rightarrow y = \frac{5+m}{4}$

D (-1-m, y+3)

C =  $\begin{pmatrix} m \\ y \end{pmatrix}$

$\sqrt{\Delta x^2 + \Delta y^2} = \sqrt{9 + 16} = \sqrt{25} = 5$

$\sqrt{\frac{9}{4} + 4} = \sqrt{\frac{25}{4}} = \frac{5}{2} = 2.5$

$P = (0 + \frac{4}{5}, 0) \times 2 = \frac{8}{5}$   
مساحت مثلث

(س)  $2m^2 + (m^2 - 1)y = 4$   $\Rightarrow y = \frac{4 - 2m^2}{m^2 - 1}$

افتات قائم m

$(m^2 - 1)y = -2m^2 + 4 \Rightarrow y = \frac{-2m^2 + 4}{m^2 - 1} = \frac{-2m^2 + 2 + 2}{m^2 - 1} = \frac{-2(m^2 - 1) + 2}{m^2 - 1} = -2 + \frac{2}{m^2 - 1}$

$\tan 45^\circ = \sqrt{3} \Rightarrow \frac{-2}{m^2 - 1} = \sqrt{3} \Rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0$

$\frac{2}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$

دائرة AH = P

(4)

C(5, 11) B(3, 3) A(1, 9)

معادلة BC  $\rightarrow \frac{11-3}{5-3} = 4$

$4m + b = y$

$4m - 3 = y \leftarrow BC$

$4(5) + b = 11$

AH مماس BC A مماس

$b = -19$

$4m - y - 3 = 0$  A(1, 9)

$|am_1 + y_1 + c|$   
 $\sqrt{a^2 + b^2}$

$\frac{|4 - 9 - 3|}{\sqrt{16}} \Rightarrow \frac{10}{\sqrt{16}} \times \frac{\sqrt{8}}{\sqrt{8}} = \sqrt{8}$

BA =  $y + 2m = 3$

دائرة BH = P

(5)

AC =  $4y - 3m = 14$

BC =  $2y - 5m = -19$

من  $BC \Rightarrow 2y = 5m - 19$  AB  $\Rightarrow y = -2m + 3$

$y = \frac{5}{2}m - \frac{19}{2}$   $-2m + 3 = \frac{5}{2}m - \frac{19}{2}$

المحلل

$\frac{33}{2}m = \frac{11}{2}m$

$33m = 11m \Rightarrow m = 3$

BH مماس AC

B(3, 1) AC =  $4y + 3m + 14 = 0$

$y = 1$

$\frac{|4 - 12 + 14|}{\sqrt{16 + 9}} = \frac{6}{5} \Rightarrow \sqrt{1.44}$

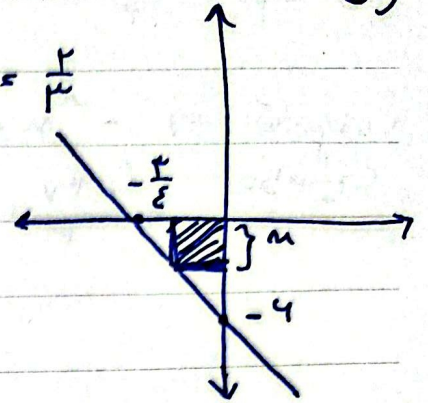
المسافة



$$\frac{m}{\frac{r}{2}} = \frac{y-m}{\frac{r}{2}} \rightarrow 4m = \frac{y}{r} - \frac{r}{2}m \rightarrow \frac{r}{2}m = \frac{y}{r}$$

مربع  $\square$   $a \rightarrow$  قطر  $= a\sqrt{2}$   
 $\sqrt{2} \times \frac{r}{2} = \frac{r}{2}\sqrt{2}$  قطر مربع

$$m = \frac{y}{\frac{r}{2}} = \frac{2y}{r}$$



$$y = am + 1$$

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

$$c \neq c'$$

$$1 \neq \frac{a-1}{a} \checkmark$$

سواء  $\rightarrow a = \frac{1}{a} \rightarrow a^2 = 1 \rightarrow a = \pm 1$

$$y = m + 1 \rightarrow y = m \xrightarrow{(1,2)} \frac{r}{2} \leq 1 + 1 \checkmark$$

$$y = -m + 1 \rightarrow y = -m + 1 \xrightarrow{(1,2)} x \cdot r = -1 + r, r \leq -1 + 1 \times$$

$$\frac{y-m-1=0}{y-m=0} \Rightarrow \frac{|c-c'|}{\sqrt{a^2+b^2}} = \frac{|0-(+1)|}{\sqrt{r}} \Rightarrow \frac{1}{\sqrt{r}} \Rightarrow \left[ \frac{\sqrt{r}}{r} \right]$$

انذاره قطر  $\frac{d}{2}$   
 $\sqrt{d^2 - \left(\frac{\sqrt{r}}{r}\right)^2} = \sqrt{r^2 - \frac{1}{r}} \rightarrow \left( \frac{V\sqrt{r}}{r} \right)$

$$S = \frac{V\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} = \left[ \frac{V}{r} \right]$$

$$y = \frac{1}{\sqrt{3}}x - \frac{1}{\sqrt{3}} \quad m_{AC} = -\sqrt{3} \rightarrow y = -\sqrt{3}(x-4) \quad y = -\sqrt{3}x + 12 \quad (A)$$

نقطه برخورد  
خط مستقیم

$$\begin{cases} -\sqrt{3}x + 12 = \frac{1}{\sqrt{3}}x - \frac{1}{\sqrt{3}} \\ \frac{\sqrt{3}}{\sqrt{3}} = \frac{1.0x}{\sqrt{3}} \end{cases} \Rightarrow \begin{cases} x = 3.7 \\ y = 0.9 \end{cases}$$

(1/√3 و √3) درون مستقیم

B است |!  $\max S \leftarrow C$  و B است

$$AC = \sqrt{(0,3)^2 + (0,9)^2} = 0.3\sqrt{10}$$

$$BC = \sqrt{(2,7)^2 + (0,9)^2} = 0.9\sqrt{10}$$

$$S = \frac{AB \times BC}{P} \Rightarrow \frac{0.3\sqrt{10} \times 0.9\sqrt{10}}{2} = 1.35$$

$$m = \sqrt{3} \rightarrow \frac{b-a}{-\frac{1}{\sqrt{3}} + \frac{1}{\sqrt{3}}} \rightarrow b-a = \frac{\sqrt{3}}{4}$$

(-1/√3, a) (9)  
(-1/√3, b)

$$\sqrt{\left(\frac{\sqrt{3}}{4}\right)^2 + \frac{1}{\sqrt{3}}} \Rightarrow \sqrt{\frac{3}{16} + \frac{1}{\sqrt{3}}} \Rightarrow \frac{2}{4} \leq \frac{1}{\sqrt{3}}$$

نقطه خط  $\Delta \leq \frac{1}{\sqrt{3}}$   
مقدار مربع؟

a طول ضلع مربع و  $\frac{a\sqrt{2}}{2}$  طول قطر

$$\frac{1}{\sqrt{3}} \times \sqrt{2} \rightarrow \left(\frac{1}{\sqrt{3}}\sqrt{2}\right) \text{ (قطر مربع)}$$

$$\sqrt{(3)^2 + (4)^2} = 5 \leftarrow \text{مساحت دایره}$$

(10)

$$m_{OA} = \frac{4}{3} \rightarrow m_{BC} = \frac{4}{3} \quad BC: y = \frac{4}{3}x + b \Rightarrow 3y = 4x + 3b \Rightarrow 0$$

نقطه برخورد BC  $\rightarrow \frac{|3y - 4x - 3b|}{5} = 0 \Rightarrow -3b = 12 \quad b = \frac{12}{3} \sqrt{x - \frac{12}{3}}$   $\frac{12}{3}$

$$BC: y > \frac{4}{3}x + \frac{12}{3} \quad BC: y < -\frac{4}{3}x + 3y - 12 = 0$$

$$m_{AB} = -\frac{3}{4} \quad y + 4 = -\frac{3}{4}(x+3) \Rightarrow y = -\frac{3}{4}x - \frac{12}{4}$$

$$\hookrightarrow AB: 4y + 3x + 12 = 0$$

$$m = \frac{-12 - 10}{-14 - 9} = -7$$

$$\boxed{y = -1} \quad \boxed{m = -7}$$

میانگین

