

$(-2, K)$ (F, m)

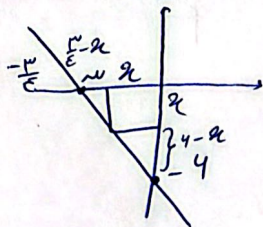
 $\frac{-1}{r} = \frac{\Delta y}{\Delta x} = \frac{m-K}{F} \rightarrow m-K = -r$
 فاصله نقطه - ضلع مربع $= \sqrt{(m-K)^2 + F^2} = \sqrt{9 + 36} = \sqrt{45} = 3\sqrt{5}$
 $S = 3\sqrt{5} \times 3\sqrt{5} = 45$

$A(-1, 4)$ $B(3, 1)$ $C(2, y)$ $D(-1-x, y+3)$
 $AB \parallel CD \rightarrow \frac{4-1}{-1-3} = \frac{-r}{2x+1} \rightarrow 2x+1 = -r \rightarrow x = \frac{-r}{2}$
 $AB \perp BC \rightarrow \frac{-r}{F} \times \frac{y-1}{-r} = -1 \rightarrow \frac{y-1}{r} = -1 \rightarrow y = -1$
 $AB = \sqrt{9+16} = 5$ $BC = \sqrt{r^2 + \frac{9}{r^2}} = \sqrt{\frac{r^4 + 9}{r^2}} = \frac{\sqrt{r^4 + 9}}{r}$
 $P = r(AB + BC) = 15$

$\tan \alpha = \sqrt{r} \rightarrow \frac{-r_m}{m-1} = \sqrt{r} \rightarrow \sqrt{r}m^2 + rm - \sqrt{r} = 0 \rightarrow \Delta = F - 4(-\sqrt{r} \times \sqrt{r}) = 14$
 $|m-r| = \frac{\sqrt{\Delta}}{|a|} = \frac{r}{\sqrt{r}} = \frac{r\sqrt{r}}{r}$

$B \left| \begin{smallmatrix} r \\ r \end{smallmatrix} \right.$, $C \left| \begin{smallmatrix} V \\ 11 \end{smallmatrix} \right.$ $\rightarrow m_{BC} = \frac{11-r}{r-r} = r \rightarrow BC = y-r = r(2-r) = 2r-y-r$
 $AH = \frac{r \cdot \sin \alpha}{\sin \beta} = \frac{|r-9-r|}{\sqrt{r^2 + (-1)^2}} = \frac{10}{\sqrt{2}} = 5\sqrt{2}$

$B \rightarrow \begin{cases} y+rx=V \\ ry-rx=-19 \end{cases} \rightarrow V-rx = \frac{-19+Vr}{r} \rightarrow 1r-rx = -19+Vr$
 $-11rx = -19r$
 $x=r \rightarrow y=1$
 $BH = \frac{r \cdot \sin \alpha}{\sin \beta} = \frac{|F-9-14|}{\sqrt{14+9}} = \frac{r}{\sqrt{23}}$



$$\frac{\frac{3}{4} - x}{\frac{3}{4}} = \frac{x}{4 - x} \rightarrow -\frac{3}{4}x - 4x + x^2 + \frac{9}{4} = -x^2$$

$$\frac{3}{4}x = \frac{9}{4} \rightarrow x = \frac{1}{1} = 1$$

$$x^2 = (\frac{1}{2})^2 \rightarrow x \times \frac{1}{4} = y^2 \rightarrow y^2 = \frac{1}{4}$$

$$\rightarrow y = \frac{1}{2} = \frac{1}{2}$$

g a x = 1

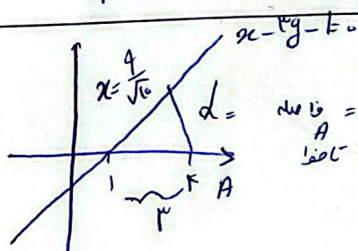
ay - x = a - 1

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

a = 1 $\rightarrow y = x, y = x + 1$ $\rightarrow$ شیب (1, 2) تصدیق ✓ $a = -1 \rightarrow y = -x + 1$ و $y = -x + 1$ $\times$ (2, 2) در هیچ یک از شیبها

فاصله دو خط = $\frac{|1 - 0|}{\sqrt{1 + 1}} = \frac{1}{\sqrt{2}}$ $x^2 + y^2 = 2a \rightarrow 2a - \frac{1}{2} = x^2 \rightarrow x^2 = \frac{1}{2}$

$\rightarrow x = \frac{1}{\sqrt{2}}$ $xy = \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{1}{2}$



فاصله A = $\frac{|1 - 1|}{\sqrt{1 + 9}} = \frac{1}{\sqrt{10}}$

$x = \sqrt{9 - \frac{9}{10}} = \sqrt{\frac{81}{10}} = \frac{9}{\sqrt{10}}$

$S = \frac{1}{2} \times \frac{1}{\sqrt{10}} \times \frac{9}{\sqrt{10}} = \frac{9}{2 \times 10} = \frac{9}{20}$

$m = \frac{\Delta y}{\Delta x} \rightarrow \Delta y = m \cdot \Delta x$

$\Delta y = \sqrt{3} \times (-1, 3 + 1, 2) = \sqrt{3} \times 4 = 4\sqrt{3}$

فاصله دو نقطه = $AB = \sqrt{(1, 4)^2 + (\sqrt{3}, 4)^2} \rightarrow AB = \sqrt{\frac{1}{3} + \frac{4}{3}} = \sqrt{\frac{5}{3}} = \frac{1}{\sqrt{3}}$

قطر = $\sqrt{2} \times \frac{1}{\sqrt{3}} = \frac{\sqrt{2}}{\sqrt{3}}$

شیب شعاع = $\frac{-\frac{1}{2} - 0}{-\frac{1}{2} - 0} = \frac{1}{2} \rightarrow$ شیبها $= -\frac{1}{\frac{1}{2}} = -\frac{2}{1} = -2$ و $(-3, -5) \rightarrow y = -\frac{2}{1}x - \frac{15}{1}$

شیبها $= -\frac{1}{m_1} = \frac{1}{2}$ $x^2 + y^2 = 2a$

شیب شعاع $\rightarrow \frac{b}{a} \times \frac{1}{2} = -1$

$\rightarrow a^2 + (-\frac{1}{2}a)^2 = 2 \rightarrow a^2 = 4 \rightarrow a = \pm 2$ و $b = 1$

$\frac{b}{a} = -\frac{1}{2}a \rightarrow xy = 1$

تقاطع = $(-2, 3)$ $y - 3 = \frac{1}{2}(x + 2)$

$\frac{1}{2}x - \frac{15}{2} = \frac{1}{2}x + \frac{15}{2} \rightarrow x = -1$