

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

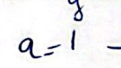
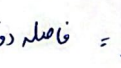
$$\frac{3}{4}x = \frac{9}{4} \rightarrow x = \frac{1}{1} = 1$$

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

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

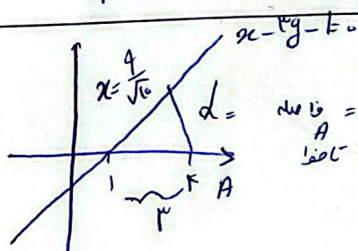
اگر $a=1$  $ay - x = a - 1$

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

$a=1 \rightarrow y=x, y=x+1$  $a=-1 \rightarrow y=-x+1$ و $y=-x+1$ 

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

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



$\alpha = \frac{|1-1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}}$

$x = \sqrt{1 - \frac{1}{2}} = \sqrt{\frac{1}{2}} = \frac{1}{\sqrt{2}}$

$S = \frac{1}{2} \times \frac{1}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{1}{4}$

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

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

فاصله دو نقطه $= \sqrt{(1, 4)^2 + (\sqrt{2}, 4)^2} \rightarrow AB = \sqrt{\frac{1}{4} + \frac{16}{4}} = \sqrt{\frac{17}{4}} = \frac{\sqrt{17}}{2}$

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

شیب شعاع $= \frac{-1-0}{-3-0} = \frac{1}{3} \rightarrow$ شیب عمود $= -\frac{1}{\frac{1}{3}} = -3$ و $(-3, -4) \rightarrow y = -\frac{3}{1}x - \frac{12}{1}$

شیب عمود $= -\frac{1}{m_1} = \frac{1}{3}$ $x^2 + y^2 = 2a$

شیب شعاع $\rightarrow \frac{b}{a} \times \frac{1}{3} = -1$

$\rightarrow a^2 + (-\frac{3}{1}a)^2 = 2 \rightarrow a^2 = 1 \rightarrow a = \pm 1$ و $b = 3$

$\frac{b}{a} = -\frac{1}{3}a \rightarrow xy = 3$

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

$\frac{-3}{1}x - \frac{12}{1} = \frac{1}{3}x + \frac{2}{3} \rightarrow x = -1$