

$$m = -\frac{1}{r} \rightarrow \frac{x-m}{-2m^2} = -\frac{1}{r} \rightarrow \frac{x-m}{-2} = -\frac{1}{r} \rightarrow x-m = 2$$

$$d_{AB} = \sqrt{3^2 + 9} = \sqrt{18} \rightarrow 3\sqrt{2}$$

$\downarrow \quad \downarrow$
 $4^2 (x-m)^2 = 3^2$

(2) در آبی و سطح و سطح موازی اند AB با CD موازی اند به این دلیل که ...
 $m_{AB} = m_{CD} \rightarrow \frac{y-1}{x-1} = \frac{y-3}{x-3}$

$$\rightarrow \frac{y}{-1} = \frac{3}{-1-2x} \rightarrow x = \frac{y}{r} \quad m_{AB} = m_{CD} = -1 \quad -\frac{y}{r} = \frac{y-1}{x-3} \rightarrow x = \frac{y}{r} \quad AB = \sqrt{3^2 + 1^2} = \frac{5}{r}$$

$$AC = \sqrt{\frac{20}{r^2} + \frac{16}{r^2}} = \frac{6}{r}$$

$C \left| \begin{smallmatrix} \frac{y}{r} \\ \frac{y}{r} \end{smallmatrix} \right| \quad D \left| \begin{smallmatrix} -\frac{1}{r} \\ -\frac{1}{r} \end{smallmatrix} \right|$

(3) می دانیم $m = \tan \alpha$
 $m = \tan \alpha = \frac{1}{r} = \frac{-2m}{m^2-1} \rightarrow \sqrt{3}m^2 - \sqrt{3} + 2m = 0$ $\Delta = 3$ $\frac{\sqrt{3}+1}{\sqrt{3}} \rightarrow \frac{\sqrt{3}+1}{3}$

(4) ابتدا معادله BC را می بینیم و سپس فاصله A از BC را حساب می کنیم.

$$m_{BC} = \frac{11-3}{5-3} = 2 \rightarrow \frac{y-3}{x-5} = 2 \Rightarrow y = 2x-7$$

$$-2x + y + 7 = 0 \quad d = \frac{|-2+9+7|}{\sqrt{4+1}} = \frac{14}{\sqrt{5}} = 2\sqrt{5}$$

(5) ابتدا با برابر کردن معادله های BC و AB نقطه B را به دست می آوریم و بعد d از AC را حساب می کنیم.

$$BC, AB \rightarrow \frac{y}{r}x - \frac{19}{r} = -2x + 7 \rightarrow \frac{1}{r}x = \frac{7}{r} \rightarrow x=7, y=1 \quad B \left| \begin{smallmatrix} 7 \\ 1 \end{smallmatrix} \right|$$

$$d = \frac{|7-9-17|}{\sqrt{1+4}} = \frac{22}{\sqrt{5}} \rightarrow \frac{22}{5}$$

$$A \left| \begin{smallmatrix} \frac{r}{r} \\ -\frac{r}{r} \end{smallmatrix} \right| \quad B \left| \begin{smallmatrix} 7 \\ 1 \end{smallmatrix} \right| \quad m_{AB} = \frac{y}{-r} = -1 \quad y = -x + b \rightarrow y = -7 \rightarrow y = -x - 7$$

$$+u = -1u - 7 \rightarrow u = -\frac{7}{2} \quad y = -\frac{7}{2}$$

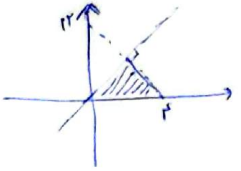
$\Delta = \sqrt{(-\frac{7}{2})^2 + (-\frac{7}{2})^2} = \frac{7\sqrt{2}}{2}$

$$\frac{u+a-1}{a} = au+1 \rightarrow u = \frac{-1}{u-1} \quad y = \frac{-a}{u-1} + 1$$

$$b_2 \gg \text{...} \rightarrow 1 - r u = \frac{1}{r} u - \frac{1}{r} \rightarrow u = r, v$$

$$y = 2, 1$$

(1)

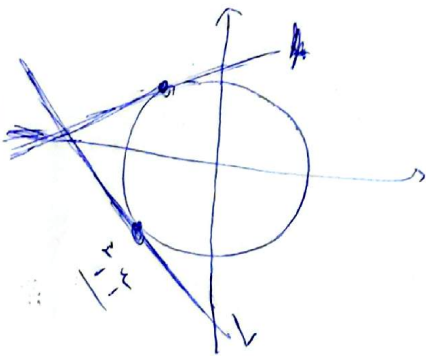


$$S_{max} = \frac{r \cdot 1}{r} \sqrt{r \cdot 1} = \frac{r \cdot 1}{r}$$

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

(9)

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



(1)