

هم در دفتر B

محل بایستادن 14

14

$$A \begin{vmatrix} r & -4 \\ 1 & 1 \end{vmatrix} \quad B \begin{vmatrix} r & 1 \\ 1 & 1 \end{vmatrix}$$

محل برخورد خطوط را پیدا کنیم

1

$$(B, A) \rightarrow M \begin{vmatrix} r+r & -4 \\ -4+r & 1 \end{vmatrix} = \begin{vmatrix} 2r & -4 \\ -4+r & 1 \end{vmatrix}$$

$$M \begin{vmatrix} r & 1 \\ 1 & 1 \end{vmatrix}$$

$$M_{AB} = \frac{1 - (-4)}{r - r} = \frac{1r}{-r} = -1$$

$$M \rightarrow \frac{1}{r}$$

$$y = \frac{1}{r}x + \frac{r}{r}$$

$$y - 1 = \frac{1}{r}(x - r) \Rightarrow y = \frac{x}{r} - \frac{r}{r} + 1 \Rightarrow y = \frac{x - r + r}{r} \Rightarrow y = \frac{x}{r} \Rightarrow y = x + r$$

$$A \begin{vmatrix} r & 1 \\ 1 & 1 \end{vmatrix} \quad B \begin{vmatrix} -r & 1 \\ 1 & 1 \end{vmatrix} \quad C \begin{vmatrix} -1 & 1 \\ 1 & 1 \end{vmatrix}$$

BC خط را پیدا کنیم

2

$$BC \rightarrow \sqrt{(r - r)^2 + (-1 - 1)^2} = \sqrt{4} = 2$$

AH

$$M_{BC} \rightarrow \frac{r - r}{-r - (-1)} = \frac{r}{-r}$$

$$y_{BC} = -\frac{r}{r}x + b \xrightarrow{\begin{vmatrix} -1 & 1 \\ 1 & 1 \end{vmatrix}} \frac{r}{r} + b = 1 \Rightarrow b = 1 - \frac{r}{r} = \frac{2}{r}$$

$$y_{BC} = -\frac{r}{r}x + \frac{2}{r}$$

$$BC \rightarrow \frac{r}{r} \Rightarrow y = \frac{r}{r}x + b \xrightarrow{\begin{vmatrix} r & 1 \\ 1 & 1 \end{vmatrix}} y \Rightarrow \frac{r}{r} + b = 1 \Rightarrow b = 1 - \frac{r}{r} = -\frac{2}{r}$$

$$BC \rightarrow y = \frac{r}{r}x - \frac{2}{r} \quad H \rightarrow -\frac{r}{r}x + \frac{2}{r} = \frac{r}{r}x - \frac{2}{r} \Rightarrow \left(\frac{r}{r} + \frac{r}{r}\right)x = \frac{2}{r} + \frac{2}{r} \Rightarrow \left(\frac{r+r}{r}\right)x = \frac{4}{r} \Rightarrow x = \frac{4}{r}$$

$$H \begin{vmatrix} r & 1 \\ 1 & 1 \end{vmatrix}$$

$$AH \rightarrow \sqrt{\left(r - \frac{4}{r}\right)^2 + \left(1 - \frac{2}{r}\right)^2} = \sqrt{\frac{4r^2}{r^2} + \frac{4}{r^2}} = \sqrt{4} = 2$$

$$\text{if } x = \frac{4}{r} \quad y = \frac{r}{r} \times \frac{4}{r} - \frac{2}{r} = \frac{4 - 2}{r} = \frac{2}{r}$$

$$BC = 2, AH = 2 \quad BC - AH = 0$$

$$r_y - x = r, \quad r_y = ax + r \Rightarrow \frac{r}{r} = \frac{1}{r} \Rightarrow a = 1$$

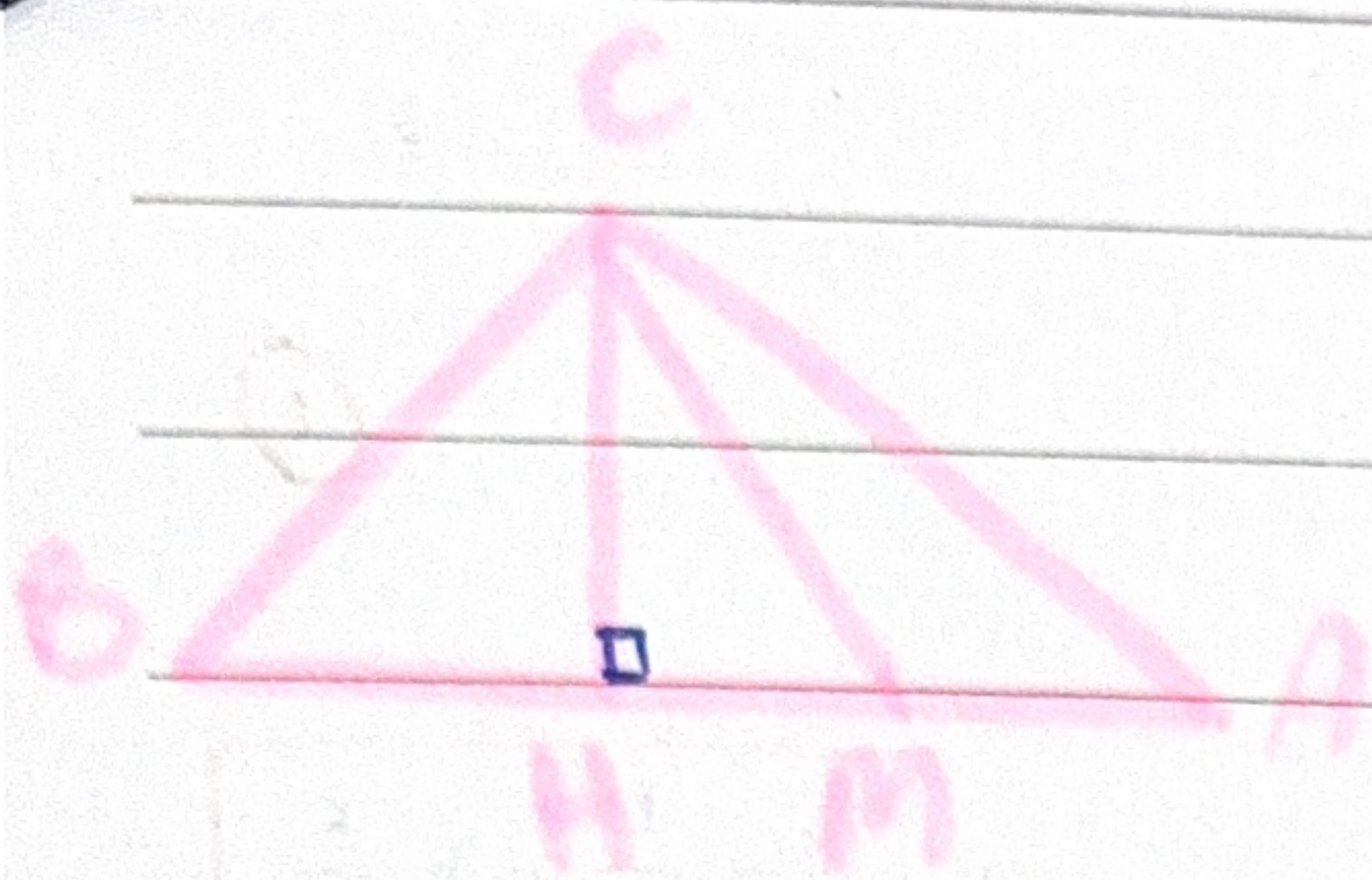
$$r_y - x = r \Rightarrow y - x = r \Rightarrow y = x + r$$

$$r = \frac{r}{\sqrt{2}}$$

$$S = \pi R^2 \Rightarrow S = \pi \left(\frac{r}{\sqrt{2}}\right)^2 \Rightarrow S = \frac{\pi r^2}{2}$$

$$\frac{1}{\sqrt{r+1}} = \frac{1}{\sqrt{2}}$$

$$\text{if } x = r \quad S = \frac{r^2}{2} = \frac{2}{2} = 1$$



$$\begin{array}{c|c} A & r \\ \hline M & \frac{r-r}{r} = r \\ & \frac{r+1}{r} = r \end{array} \quad \begin{array}{c|c} B & r \\ \hline M & r \end{array} \quad \begin{array}{c|c} C & -1 \\ \hline M & r \end{array}$$

(f)

(y)

H $\rightarrow$ $M_{AB} = \frac{r-1}{r-r} = \frac{r}{-r} = -1$ $y = -x + b$ $r = -r + b \Rightarrow b = d \Rightarrow y = -x + d$

AB $\rightarrow$ $m=1$

C $\rightarrow$ $y = x + b$ $c = -1$ $-r = -1 + b \Rightarrow b = -r \Rightarrow y = x - r$

H $\rightarrow$ $x - r = -x + d \Rightarrow rx = d \Rightarrow x = \frac{d}{r}$, if $x = \frac{d}{r} \Rightarrow y = \frac{d}{r} - r = \frac{d-r}{r}$

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

$(m+1)x - (r_m - r)y + 1 = 0$, $(r_m - r)x + (d - m)y - d = 0$

m=?

(d)
(5)

$\frac{-m-1}{-r_m+r} = \frac{-r_m+r}{d-m}$

$\frac{-m-1}{-r_m+r} \times \frac{-r_m+r}{d-m} = -1 \Rightarrow (r_m^2 - r_m + r_m - r) = (1 \cdot m - r_m^2 - r + \epsilon_m)$

$r_m^2 + m - r = -r_m^2 + 1 \epsilon_m - r$

$d m^2 - 1 r_m + 1 \epsilon_m = 0$

$\Delta < 0$ $\Rightarrow$ $(r_m^2 - 1)^2 - 4 \epsilon_m < 0$

AB: $x + ry = r$, AC: $y = rx - 1$, BC: $x + y = r$

AM
AH

(4)
(y)

AC, AB $\rightarrow$ $y = r - x$ $\frac{r-x}{r} = rx - 1 \Rightarrow r - x = rx - r \Rightarrow dx = d \Rightarrow x = 1$ $A \rightarrow$ $y = rx - 1$ $\text{if } x=1 \Rightarrow y=1$

B $\rightarrow$ $y = \frac{r-x}{r}$, $y = r - x$ $r - x = \frac{r-x}{r} \Rightarrow 1 - rx = \frac{r-x}{r} \Rightarrow x = d \rightarrow \text{if } x=d \Rightarrow y = -1$ $B \rightarrow$ $y = \frac{d}{r}$

BC $\rightarrow$ $y = r - x$ $r - x = rx - 1 \Rightarrow rx = d \Rightarrow x = \frac{d}{r} \rightarrow \text{if } x = \frac{d}{r} \Rightarrow y = r - \frac{d}{r} = \frac{r-d}{r}$ $C \rightarrow$ $y = \frac{d}{r}$

AC, BC $\rightarrow$ $y = r - x$ $\Rightarrow r - x = rx - 1 \Rightarrow rx = d \Rightarrow x = \frac{d}{r} \rightarrow \text{if } x = \frac{d}{r} \Rightarrow y = r - \frac{d}{r} = \frac{r-d}{r}$

BC $\rightarrow$ $y = r - x$ $\Rightarrow r - x = rx - 1 \Rightarrow rx = d \Rightarrow x = \frac{d}{r} \rightarrow \text{if } x = \frac{d}{r} \Rightarrow y = r - \frac{d}{r} = \frac{r-d}{r}$

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

AH $\rightarrow M_{BC} \Rightarrow y = r - x \Rightarrow m = -1 \Rightarrow M_{AH} = 1$

$y = x + b$ $A \rightarrow$ $b = 0 \Rightarrow H \rightarrow r - x = x \Rightarrow x = r$

$\frac{AM}{AH} = \frac{\frac{\sqrt{2}}{r}}{r} = \frac{\sqrt{2}}{r^2}$

$$M = -\frac{1}{r}$$

شیب: $\rightarrow \sqrt{r}$
 عرض: $\rightarrow \frac{1}{r}$

(v)

$$y = -\frac{1}{r}x + b \quad \left| y + \frac{1}{r}x - b \right| \xrightarrow{\frac{1}{\sqrt{1^2 + (\frac{1}{r})^2}}} \frac{b}{\frac{1}{\sqrt{r}}} = \sqrt{r} \Rightarrow b = r\sqrt{r} \times \frac{\sqrt{r}}{r} = r$$

(2)

$$y = -\frac{1}{r}x + r$$

if $x = 0$, $y = r$, if $y = 0 \Rightarrow -\frac{1}{r}x = -r \Rightarrow x = r$

A: $\frac{1}{r}$, B: r

$$\sqrt{(1)^2 + (r)^2} = \sqrt{1+r^2}$$

$\sqrt{r}$

$$my - Fx = Fm$$

$$y + mx = x + r$$

$$y = \frac{Fx + Fm}{m} \Rightarrow y = \frac{Fx}{m} + r$$

$$y = x + r - mx$$

$$y = x(1-m) + r$$

در این عرض از دیدگاه مثبت و منفی

نقطه برخوردش $\frac{1}{r}$ است

(1)

(1)

$$y = \frac{Fx}{m} + r \quad \text{if } y = 0$$

$$y = x(1-m) + r \Rightarrow x(1-m) = -r \Rightarrow x = \frac{-r}{1-m}$$

$$SD = \left| \frac{m \cdot \frac{-r}{1-m} + r}{r(1-m)} \right| \cdot r \cdot \frac{1}{r} = \frac{r}{r}$$

$$\hookrightarrow m = r, \quad m \cdot \frac{r}{r} + Fm - 1 = 0$$

$$r_{x-1} = -r$$

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

$$\frac{-r}{1-m}$$

$$y = \frac{Fx}{m} + r$$

$$\frac{Fx}{m} = -r \Rightarrow x = \frac{-m}{r}$$

$$y = x(1-m) + r \quad \text{if } y = 0$$

$$\frac{-m}{r}$$

$$m \mid \begin{array}{c} r \\ -r \end{array} \Rightarrow y = rx - r$$

$$\hookrightarrow \text{if } x=1 \Rightarrow y=-1$$

$$\begin{array}{c} \mid \\ -1 \end{array} \quad \begin{array}{c} \mid \\ -r \end{array} \quad \begin{array}{c} \mid \\ -r \end{array}$$

$$y = rx + b \quad \xrightarrow{\begin{array}{c} \mid \\ -r \end{array}} \quad -r = y + b \Rightarrow b = -9$$

$$\boxed{y = rx - 9}$$

9

y

$$A \mid \begin{array}{c} 1 \\ r \end{array}$$

$$y = x + d$$

$$A' \mid \begin{array}{c} a \\ b \end{array}$$

$$rb - a = ?$$

$$\text{نقطه تقاطع این دو} \hookrightarrow m = -1 \Rightarrow y = -x + b \quad \xrightarrow{\begin{array}{c} \mid \\ r \end{array}} \quad r = -1 + b \Rightarrow b = r$$

$$y = -x + r$$

تقاطع این دو!

$$x + d = -x + r \Rightarrow rx = -r \Rightarrow x = -1, y = r$$

$$A \mid \begin{array}{c} 1 \\ r \end{array} \quad \begin{array}{c} \mid \\ -1 \end{array} \quad \begin{array}{c} \mid \\ r \end{array}$$

$$A' \mid \begin{array}{c} a \\ b \end{array}$$

$$\Rightarrow \begin{array}{l} a = -r \\ b = r \end{array} \Rightarrow \begin{array}{l} rb - a \\ r \times r - (-r) = 1d \end{array}$$

$$\boxed{1d}$$

1.

y