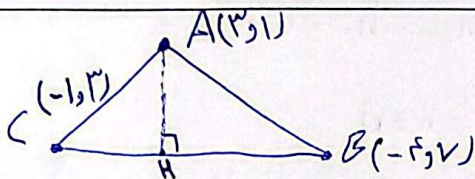


$$A \xrightarrow{M} B \quad M = \left(\frac{2+f}{f}, \frac{1-g}{f} \right) = (3, 1)$$

$$m = \frac{1f}{-f} = -1 \rightarrow m' = \frac{1}{1} \rightarrow y = \frac{1}{1}x + h \rightarrow 1 = \frac{3}{1} + h \rightarrow h = \frac{f}{1}$$

$$y = \frac{1}{1}x + \frac{f}{1} \quad \checkmark$$

(۲)



$$\text{طول } BC: \sqrt{3^2 + 4^2} = 5 \quad \checkmark$$

$$5 - 2 = 3$$

$$5 - 2 = 3$$

(۱, ۲, ۵)

$$m_{BC} = \frac{-f}{f} \rightarrow m_{AH} = \frac{3}{f}$$

$$\text{طول } AH = \sqrt{\frac{4^2}{f^2} + 1} = \sqrt{\frac{16}{f^2} + 1} = \frac{\sqrt{16 + f^2}}{f} = \frac{5}{f}$$

$$y_{AH} = \frac{3}{f}x + h \rightarrow 1 = \frac{3}{f} + h \rightarrow h = \frac{f-3}{f} \rightarrow y = \frac{3}{f}x + \frac{f-3}{f}$$

$$y_{BC} = \frac{-f}{f}x + h \rightarrow 3 = -1 + h \rightarrow h = 4 \rightarrow y = -x + 4$$

BC خط: A فاصله: $|1 + f - \frac{4}{f}| = 2$

$$y - x - 1 = 0$$

$$y - x - 1 = 0 \rightarrow a = 1$$

$$y - x - 1 = 0$$

$$y - x - 1 = 0$$

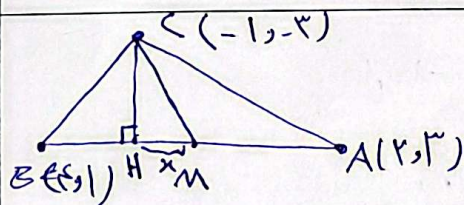
$$\sqrt{1 + \left(\frac{f}{f}\right)^2}$$

$$\frac{|1f - 2|}{\sqrt{2}} = \frac{1f}{\sqrt{2}} = \frac{9}{\sqrt{2}} \rightarrow r = \frac{9}{\sqrt{2}}$$

$$S = \pi r^2 \rightarrow S = \pi \times \frac{81}{2} = \frac{81\pi}{2} \quad \checkmark$$

(۲)

۳



$$M = \left(\frac{2+f}{f}, \frac{3+1}{f} \right) = (3, 2) \quad \checkmark$$

$$x = \text{فاصله } (3,2) \text{ و } (2,3) \rightarrow \sqrt{\frac{1}{f^2} + \frac{1}{f^2}} = \sqrt{\frac{2}{f^2}} = \frac{\sqrt{2}}{f}$$

$$m_{AB} = \frac{f}{-f} = -1 \rightarrow m_{HC} = 1 \rightarrow 3 - 3 = 1x + h \rightarrow h = -2 \rightarrow y = x - 2$$

$$BC \rightarrow 1x = -f + h \rightarrow h = 0 \rightarrow y = -x + 0 \quad \text{و } x - 2 = -x + 0 \rightarrow 2x = 2 \rightarrow x = 1$$

$$m = \frac{-f}{-f} = 1 \rightarrow \frac{3m + 2}{-m + 0} = \frac{2m - 2}{-m - 1} \rightarrow 3m^2 + m - 2 = -2m^2 + 14m - 2$$

$$\rightarrow 5m^2 - 13m + 18 = 0 \rightarrow \Delta < 0 \rightarrow \text{جوابی ندارد و به ازای هیچ مقادیری عمود نمی شود} \quad \checkmark$$

(۲)

۵

$A(1,1)$ $A \Rightarrow r-n-1 = \frac{r-n}{r} \rightarrow r-n-1 = r-n \rightarrow n=1, y=1$
 $B \Rightarrow r-n = \frac{r-n}{r} \rightarrow 1-r-n = r-n \rightarrow n=0, y=-1$
 $C \Rightarrow r-n-1 = \frac{r-n}{r} \rightarrow r-n=0 \rightarrow n=0, y=\frac{r}{r}$
 $M_{BC} = (0,0) \rightarrow y = -n+h \rightarrow MAH=1 \rightarrow y=n+h \xrightarrow{h=0} y=n$
 $M = \left(\frac{0+0}{2}, \frac{-1+1}{2}\right) = (0,0)$ $AM = \sqrt{1^2+1^2} = \sqrt{2}$ $AH = 1$ $\frac{AM}{AH} = \frac{\sqrt{2}}{1} = \sqrt{2}$

$y = -\frac{1}{r}x + h$
 $\sqrt{r} = \frac{h}{\sqrt{\frac{1}{r^2}+1}} = \sqrt{\frac{1}{r}} = h \rightarrow h=0$
 $y = -\frac{1}{r}x + 0$
 $AB = \sqrt{1^2+1^2} = \sqrt{2}$ $\rightarrow 0 = -\frac{1}{r}x + 0 \rightarrow x=0$

$y=0 \rightarrow -rx+rm \rightarrow n = -\frac{1}{r}m$
 $y'=0 \rightarrow -mx+n+r=0 \rightarrow n = \frac{r}{m-1}$
 $\left| \frac{r}{m-1} + \frac{1}{r}m - \frac{0}{r} \right| = \frac{r}{r} \rightarrow \left| \frac{r}{m-1} + m \right| = 0 \rightarrow r+m^2-m = 0$
 $m^2-m+r = 0 \rightarrow \Delta = 1-4r$

$M(2,-2)$ $A(1,-1)$
 $r = \frac{1+n'}{r} \rightarrow n' = r$ $-r = \frac{-1+y'}{r} \rightarrow y' = -r$
 $y = rn+h \xrightarrow{h=-9} -r = r+h \rightarrow h=-9$
 $y = rn-9$

$A'(1,1)$ $M(-1,1)$
 $y' = -\frac{1}{n} + h \rightarrow r = -\frac{1}{n} + h \rightarrow h=r$
 $y' = -\frac{1}{n} + r$
 $-\frac{1}{n} + r = n + 0 \rightarrow -r = n + \frac{1}{n} \rightarrow -r = \frac{n^2+1}{n}$
 $n^2+1+rn=0 \rightarrow (n+1)^2=0 \rightarrow n=-1, y=r$
 $A'(a,b) = (-r, r) \rightarrow rb-a = r^2-r = 0$

$A'(a,b) = (-r, r) \rightarrow rb-a = r^2-r = 0$