

برنام خدا
رایان معماریان یازدهم A تکلیف: ۱۸

$$m = -\frac{1f}{y} = -\frac{1}{y} \rightarrow m' = \frac{1}{y} \text{ و } (2, 1) \rightarrow (y-1) = \frac{1}{y}(x-2) \rightarrow y = \frac{1}{y}x + \frac{f}{y} \quad \checkmark \quad (2) \quad 1$$

$$m = -\frac{f}{r} \rightarrow y-2 = -\frac{f}{r}(x+1) \Rightarrow y + \frac{f}{r}x - \frac{f}{r} = 2 \Rightarrow ry + fx - f = 2r \Rightarrow \frac{|2r+1f-f|}{\sqrt{9+16}} = \frac{10}{5} = 2 \quad \checkmark \quad (2) \quad 2$$

$$\text{جهت } BC = \sqrt{r^2 + f^2} = 5 \quad \checkmark \rightarrow 5 - 2 = 3 \quad \checkmark \quad (2) \quad 3$$

$$m = \frac{1}{f} \rightarrow \frac{a}{f} = \frac{1}{f} \rightarrow a = 1 \rightarrow fy - rx = 1 \text{ و } fy - rx = 1f \quad \frac{|1f-1|}{r\sqrt{6}} = \frac{4}{\sqrt{6}} \rightarrow r = \frac{2}{\sqrt{6}} \rightarrow S = \frac{9}{\sqrt{6}} \quad \checkmark \quad (2) \quad 4$$

$$m_{BA} = \frac{2}{f} = -1 \rightarrow y = -x + 5 \quad m_{CH} = 1 \rightarrow y = x + 1 \rightarrow x-2 = -x+5 \rightarrow x = \frac{7}{2} \text{ و } y = \frac{3}{2} \quad \checkmark \quad (2) \quad 5$$

$$M \left| \frac{10}{r} \right| \rightarrow d_{HM} = \sqrt{\left(\frac{1}{f}\right)^2 + \left(\frac{1}{r}\right)^2} = \frac{\sqrt{2}}{r} \quad \checkmark \quad (2) \quad 6$$

$$\frac{r}{m+1} = \frac{f}{m-1} \Rightarrow -2m^2 + 14m - 10 = 3m^2 + m - 2 \rightarrow 5m^2 - 13m + 8 = 0 \rightarrow \Delta = 1 \rightarrow m = 2 \text{ یا } m = \frac{8}{5} \quad \checkmark \quad (2) \quad 7$$

$$\begin{cases} 2y = 3-x \\ 2y = 4x-2 \end{cases} \Rightarrow \begin{cases} x+2y=3 \\ -x-y=-1 \end{cases} \Rightarrow \begin{cases} x+y=2 \\ y=-x+2 \end{cases} \Rightarrow \begin{cases} x=1, y=1 \\ x=2, y=0 \end{cases} \quad \checkmark \quad (2) \quad 8$$

$$M \left| \frac{10}{r} \right| \rightarrow d_{AM} = \sqrt{\left(\frac{1}{f}\right)^2 + \left(\frac{1}{r}\right)^2} = \frac{\sqrt{2}}{r} \quad \text{و} \quad \frac{AH}{\sqrt{2}} = \frac{1+1-f}{\sqrt{2}} = \sqrt{2} \rightarrow \frac{AM}{AH} = \frac{5}{\sqrt{2}} \quad \checkmark \quad (2) \quad 9$$

$$\begin{cases} y-0 = -\frac{1}{f}(x-A) \rightarrow y = -\frac{x}{f} + \frac{A}{f} \\ y-B = -\frac{1}{f}(x-0) \rightarrow y = -\frac{x}{f} + B \end{cases} \Rightarrow \begin{cases} A=2B \\ |0+0-B| = \frac{10}{\sqrt{1^2+1^2}} \end{cases} \Rightarrow B=0 \text{ و } A=10 \rightarrow d_{AB} = \sqrt{10^2+0^2} = 10 \quad \checkmark \quad (2) \quad 10$$

$$y = \frac{f}{m}x + 2$$

$$y = (1-m)x + 2$$



هر دو خط در نقطه
(0, 2) متقاطع اند پس ارتفاع

منبت 2 واحد است

حالا هر یک را به یاری میل به خود دشتون با هم وصل کنید

$$y = \frac{f}{m}x + 2 \xrightarrow{y=0} x = -\frac{m}{f}$$

$$y = (1-m)x + 2 \xrightarrow{y=0} x = \frac{2}{m-1}$$

$$\Delta x = \left| \frac{2}{m-1} - \left(-\frac{m}{f}\right) \right|$$

$$S_{\Delta} = \left| \frac{m^2 - m + f}{2(m-1)} \right| \cdot 2 \cdot \frac{1}{f} = \frac{2}{f} \rightarrow \begin{cases} \text{مقدار اول: } m = 3 \\ \text{مقدار دوم: } \Delta > 0 \rightarrow \frac{2}{f} = -1 \end{cases}$$

حاصل ضرب مقادیر m = -3

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$$m = 1 \quad (P, 1) \rightarrow \frac{nr + r}{r} = r \rightarrow nr = r \quad \frac{y_r + 1}{r} = -r \rightarrow y_r = -r \quad (r) \quad (9)$$

$$y + a = r(n - r) \rightarrow y = rn - r \quad \checkmark$$

$$m_1 = 1 \rightarrow m_p = -1 \rightarrow y - r = -1(n - 1) \rightarrow y = -n + r \quad dAA' \rightarrow -n + r = n + a \rightarrow rn = -r \quad (r) \quad (10)$$

$$\frac{a + 1}{r} = -1 \quad \boxed{a = -r} \quad \frac{b + r}{r} = r \rightarrow \boxed{b = r} \quad r(b - a) = (r + r) = 1 \quad \checkmark$$