

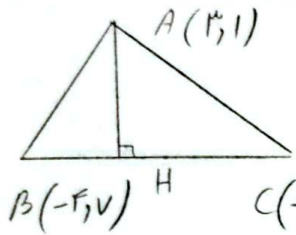
« از قسم B »

« بخش ششم ۱۶ »

پایان

$$A(4, -2) \quad m_{AB} = \frac{0y}{0x} = \frac{1 - (-2)}{2 - 4} = \frac{1}{-2} = -\frac{1}{2} \quad m = \frac{1}{2}$$

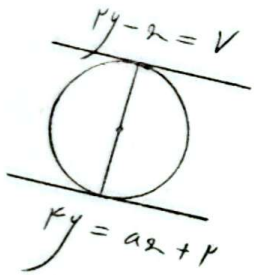
$$M = \left(\frac{4+2}{2}, \frac{1-2}{2} \right) \Rightarrow M(3, -\frac{1}{2}) \quad y - 1 = \frac{1}{2}(x - 4) \Rightarrow y - 2 - 1 = 0$$



$$BC = \sqrt{0y^2 + 0x^2} = \sqrt{16} = 4 \quad S = AH \times \frac{BC}{2} = 4$$

$$S = \frac{1}{2} |3(4) - 4(-2) - 1(-2)| = 4 \quad AH = 1$$

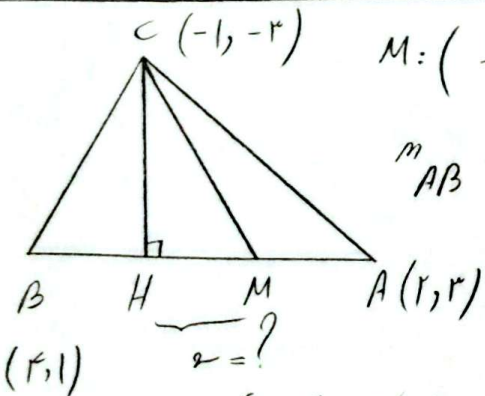
مساحت مثلث ABC، ۴، واحد است.



$$y - 2 = 1 \quad y - 2 - 1 = 0 \quad x^2 \quad y - 2 - 1 = 0$$

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

$$\Rightarrow r = \frac{2\sqrt{5}}{5} \quad S = \pi r^2 = \left(\frac{2\sqrt{5}}{5} \right)^2 \pi = \frac{4}{5} \pi$$



$$M: \left(\frac{4+2}{2}, \frac{2+1}{2} \right) \Rightarrow M(3, \frac{3}{2}) \quad y + 2 = 1(x + 1)$$

$$m_{AB} = \frac{-2}{1} = -2 \quad m_{CH} = 1 \quad y = x - 2$$

$$y - 2 = -1(x - 2) \Rightarrow y = -x + 4$$

$$\Rightarrow \begin{cases} y = x - 2 \\ y = -x + 4 \end{cases} \Rightarrow \begin{cases} x = \frac{6}{2} \\ y = \frac{2}{2} \end{cases} \Rightarrow \begin{cases} x = 3 \\ y = 1 \end{cases}$$

$$d = \sqrt{\left(\frac{4}{2} - \frac{2}{2} \right)^2 + \left(\frac{2}{2} - \frac{1}{2} \right)^2} = \frac{\sqrt{5}}{2}$$

$$(m+1)x - (r_m - r)y + 1 = 0 \Rightarrow \frac{-m-1}{-r_m+r} \times \frac{-r_m+r}{\omega-m} = -1$$

$$(r_m - r)x + (\omega - m)y - V = 0$$

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

$$\Rightarrow \omega m r - 1 r_m + 1 \Lambda = 0$$

$$\Rightarrow \Delta: 144 - 4(\omega)(1\Lambda) \Rightarrow \Delta < 0 \Rightarrow m \text{ ليس عددا حقيقيا}$$

$$\begin{cases} AB: x + ry = r \\ AC: y = r_x - 1 \end{cases} \Rightarrow \text{نقطة التقاطع: } x + r(r_x - 1) = r \Rightarrow x + r_x - r = r$$

$$\Rightarrow x = 1 / y = r(1) - 1 = 1 \quad \boxed{A(1, 1)}$$

$$BC: x + y = r$$

$$\text{نقطة التقاطع: } \begin{cases} -x + y = r \\ x + ry = r \end{cases} \Rightarrow x = \omega / y = -1$$

$$\boxed{B(\omega, -1)}$$

$$\text{نقطة التقاطع: } \begin{cases} y - rx = -1 \\ -y + x = -r \end{cases} \Rightarrow x = \frac{\omega}{r} / y = \frac{r}{r}$$

$$\boxed{C(\frac{\omega}{r}, \frac{r}{r})}$$

$$M: \left(\frac{\omega + \frac{\omega}{r}}{r}, \frac{-1 + \frac{r}{r}}{r} \right) = \left(\frac{1}{r}, \frac{r}{r} \right) \Rightarrow AM = \sqrt{\left(\frac{r}{r}\right)^2 + \left(-\frac{1}{r}\right)^2} = \sqrt{\frac{\omega}{r}}$$

$$AH: \frac{|1(1) + 1(1) - r|}{\sqrt{1+1}} = \frac{r}{\sqrt{r}} = \sqrt{r}$$

$$\frac{AM}{AH} = \frac{\frac{\omega \sqrt{r}}{r}}{\sqrt{r}} = \frac{\omega}{r}$$

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

$$\sqrt{r} = \frac{|-b|}{\frac{\sqrt{\omega}}{r}} \Rightarrow b = \pm \omega$$

$$\frac{x}{rb} + \frac{y}{b} = 1 \quad d_{AB} = \sqrt{(-a)^2 + (b-\cdot)^2}$$

$$\Rightarrow d_{AB} = \sqrt{a^2 + b^2} \rightsquigarrow \sqrt{(rb)^2 + b^2} \rightsquigarrow \sqrt{\omega b^2} \rightsquigarrow d = \sqrt{\omega \times r \omega} = \omega \sqrt{\omega}$$

(\omega)

$$\textcircled{1} my - r_2 = r_m \leadsto -r_2 = r_m \Rightarrow r = \frac{-m}{r} / \text{كل } r = 0 \Rightarrow my = r_m \quad y = r$$

$r = 0$ على $y = 0$ $r = 0$ على $y = 0$

$$\textcircled{2} y + m_2 = r + r \leadsto m_2 - r = r \Rightarrow r = \frac{r}{m-1} / \text{كل } r = 0 \Rightarrow y = r$$

$r = 0$ على $y = 0$ $r = 0$ على $y = 0$

$$\begin{cases} S = \frac{1}{r} \times \left(\frac{-m}{r}\right) \times r = \frac{-m}{r} \leadsto \frac{-m}{r} = \frac{d}{r} \Rightarrow m = \pm d \\ S = \frac{1}{r} \times \left(\frac{r}{m-1}\right) \times r = \frac{r}{m-1} \leadsto \frac{r}{m-1} = \frac{d}{r} \Rightarrow dm - d = r \end{cases} \begin{cases} m = \frac{1}{d} \\ m = \frac{r}{d} \end{cases}$$

$$\text{كل } m \textcircled{1} \times m \textcircled{2} = -d \times \frac{r}{d} \times d \times \frac{1}{d} = -9$$

$$y = r_2 - r \leadsto M(r, -r) / m' = r \Rightarrow x = 0 \Rightarrow y = r(0) - r = -r$$

$A(\cdot, -r)$

$$\begin{matrix} A(\cdot, -r) & M(r, -r) & A'(a', y') \end{matrix} \begin{cases} x_M = \frac{rA + r'}{r} = r = \frac{0 + r'}{r} \Rightarrow a' = r \\ y_M = \frac{rA + y'}{r} = -r = \frac{-r + y'}{r} \Rightarrow y' = -1 \end{cases}$$

$$\Rightarrow A'(r, -1) \leadsto y - (-1) = r(2 - r) \Rightarrow y = r_2 - 9$$

$$A(1, r) \quad y = 2 + d \leadsto A'(a, b) \quad r(b - a) = ? \leadsto 2r = y_1 - c : \text{كل } d$$

$$2r = r - d = -r \quad y_r = 1 + d = 4 \leadsto y_r = x_1 + c$$

$$\hookrightarrow A'(-r, 4) \quad r(4) - (-r) = 1d$$

$a \quad b$