

$$m_{AB} = \frac{1-3}{3-(-1)} = \frac{1}{2}$$

$$M(1,1)$$

$$m_{AB} = -1$$

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

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

$$m_{BC} = \frac{3-1}{-1+1}$$

$$y = -x + 2$$

$$y - 1 = \frac{1}{2}(x - 1) \Rightarrow y = \frac{x}{2} + \frac{1}{2}$$

$$BC = \sqrt{(-1+1)^2 + (1-3)^2} = \sqrt{4} = 2$$

$$\sqrt{1+14} = 4$$

$$m_{BC} = \frac{3-1}{-1+1} = -\frac{2}{0}$$

$$BC \perp AB \Rightarrow y - 1 = -\frac{1}{2}(x - 1) \Rightarrow 2x + 2y - 4 = 0$$

$$AH = \frac{|1(1) + 2(1) - 4|}{\sqrt{2^2 + 2^2}} = \frac{1}{2} = \frac{1}{2}$$

$$2 - 1 = 1$$

$$a = 1$$

$$a = \frac{|1 - (2)|}{\sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

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

$$S = \pi r^2 = \pi \left(\frac{2\sqrt{2}}{2}\right)^2 = 4\pi \times \frac{1}{2} = \frac{4\pi}{2}$$

$$\left\{ \begin{array}{l} y - 1 = 1 \\ y - 1 = -1 \end{array} \right. \Rightarrow d = \frac{1}{\sqrt{2}} \rightarrow \text{شعاع} = \frac{1}{\sqrt{2}} \quad S = \frac{1}{2}\pi$$

$$m_{AB} = \frac{1-3}{3-1} = -1$$

$$M(1,1)$$

$$m_{AB} = -1 \rightarrow m_{CH} = 1 \rightarrow CH: y = x - 1$$

$$AB \perp CH \Rightarrow y - 3 = -1(x - 1) \Rightarrow y = -x + 4$$

$$MH = \frac{|1 - 3 + 1|}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

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

$$m = 1 \rightarrow y - 3 = 1(x + 1) \Rightarrow y = x + 4$$

$$x + 4 = -x + 4 \rightarrow 2x = 0 \rightarrow x = 0 \Rightarrow y = 4$$

$$H = (0, 4, 4)$$

$$MH = \sqrt{(3-0)^2 + (1-4)^2} = \sqrt{10}$$

$$m = -1$$

$$m_1 \times m_2 = -1$$

$$1) m_1 = \frac{r_m - r}{m - a}$$

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

$$m_1 \times m_2 = -1 \rightarrow 2m^2 - 1r_m + 1r = 0 \quad \Delta < 0$$

هیچ مقدار برای  $m$  وجود ندارد

$$\textcircled{2} \quad m_1 = \frac{1}{r} \Rightarrow m_1 \times m_2 = \frac{1}{r} \neq -1$$

$$m_x - r m_y - r m - a = 0 \Rightarrow g = \frac{x-r}{r} - \frac{a}{r m}$$

$$m_x + r m_y - m + r = 0$$

$$m_1 = \frac{1}{r}$$

$$g = -\frac{1}{r} x + \frac{m-r}{r m} \Rightarrow m_2 = -\frac{1}{r}$$

$$m_1 m_2 = -\frac{1}{r^2}$$

هیچ مقدار برای  $m$  وجود ندارد

در جو (نوار) که دو خط موازی هستند

$$A(1,1) \quad B(a,-1) \quad C\left(\frac{a}{r}, \frac{r}{r}\right) \quad M\left(\frac{1}{r}, \frac{r}{r}\right)$$

$$\begin{cases} AB = x + r y = r \\ AC = y - x = r \\ BC = x + y = r \end{cases}$$

$$\frac{AM}{AB} = \frac{r}{r} = 1$$

$$AH = \sqrt{r}, \quad AM = \frac{\sqrt{a}}{r}$$

5

سوال 4

$$r_0 = \frac{|b|}{\sqrt{1 + (1/r)^2}} = \frac{|b|}{\sqrt{a/r}} = r_0 \Rightarrow b = \pm 10\sqrt{a}$$

$$y=0 \Rightarrow 0 = -\frac{1}{r} x + b \Rightarrow x = r b \Rightarrow A(r b, 0)$$

$$x=0 \Rightarrow y = b \Rightarrow B(0, b)$$

$$AB = \sqrt{(rb)^2 + (0-b)^2} = \sqrt{r^2 b^2 + b^2} = \sqrt{a b^2} = |b| \sqrt{a} = 10\sqrt{a} \times \sqrt{a}$$

$$AB = 100$$

$$u = -\frac{1}{r} \rightarrow r_y + u - k = 0 \quad (V)$$

$$\frac{|r_0|}{\sqrt{a}} = \sqrt{r} \rightarrow C = \pm a$$

$$C = a \rightarrow AB = \sqrt{r_0}$$

$$C = -a \rightarrow AB = \sqrt{r_0}$$

$$mg = m\ddot{x} - r$$

$$a_{\text{center}} = \frac{\omega}{r}$$

$$y = mx + x + r$$

حل (سوال 9)

$$m_1 \times m_2 = -r \quad \text{و } \frac{m_1}{m_2} = \frac{r}{m}$$

$$S_D = \left| \frac{m^r - m + k}{r(m-1)} \right| \left| r \frac{r_y}{r} \frac{1}{r} = \frac{a}{r} \right|$$

$$\hookrightarrow m = r, \quad m^r + r_{m-1} = 0$$

$$r_{x-1} = -r \quad \frac{r}{a} = -1$$

(سوال 9)

$$y = -\frac{r}{r} x \quad M(-r, r)$$

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

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

$$\frac{\alpha + r}{r} = r \rightarrow \alpha = r$$

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

$$\left. \begin{array}{l} \alpha = r \\ \beta = -1 \end{array} \right\} \rightarrow m_d' = r$$

$$y = r - r$$

$$A(1, r)$$

$$b \Rightarrow y = x + a$$

$$A'(a, b)$$

$$m = -1$$

$$y - r = -1(x - 1) \rightarrow y = -x + r$$

$$y = -x + r \Rightarrow x + a = -x + r \Rightarrow r x = -r \Rightarrow x = -1$$

$$A' = (r x_H - x_A, y_H - y_A) = (r(-1) - 1, r - r)$$

$$a' = -r \quad \& \quad b' = r$$

$$b - r a \Rightarrow r - r(-r) = r + r = 2r$$