

$$A(\epsilon, -4)$$

(1)

$$B(r, 1)$$

$$m\left(\frac{\epsilon+r}{r}, -\frac{4+1}{r}\right) = m(r, 1)$$

(2)

$$m_{AB} = \frac{1 - (-4)}{r - \epsilon} = \frac{5}{r - \epsilon} = -v$$

$$m_{\perp} = \frac{1}{v} \rightarrow y - 1 = \frac{1}{v}(m - r)$$

$$y = \frac{1}{v}m + \frac{\epsilon}{v}$$

$$A(r, 1) \quad B(-\epsilon, v) \quad C(-1, -r)$$

(3)

$$BC = \sqrt{(-\epsilon - (-1))^2 + (v - (-r))^2} = \sqrt{9 + 16} = 5$$

(5)

$$AH = r$$

$$BC - AH = 5 - r = r$$

$$ry - m = v$$

$$eg. \quad an + r$$

$$\begin{aligned} -m + ry - 1 &= 0 \\ -m + ry - v &= 0 \end{aligned}$$

(7)

$$m_{\text{دری}} = \frac{1}{r}$$

$$\frac{|c - c'|}{\sqrt{a^2 + b^2}}$$

(5)

$$\frac{|-v - (-1)|}{\sqrt{(-1)^2 + r^2}} = \frac{4}{\sqrt{5}} \rightarrow rr = \frac{4}{\sqrt{5}} \rightarrow r = \frac{4}{\sqrt{5}}$$

$$A = \pi r^2 = \pi \left(\frac{4}{\sqrt{5}}\right)^2 \rightarrow \pi \times \frac{16}{5} = \frac{16\pi}{5}$$

$$A(2, 3) \quad B(4, 1) \quad C(-1, -3)$$

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

$$H\left(\frac{2}{2}, \frac{3}{2}\right)$$

$$MH = \sqrt{\left(2 - \frac{2}{2}\right)^2 + \left(3 - \frac{3}{2}\right)^2} = \sqrt{\frac{1}{4} + \frac{1}{4}} = \sqrt{\frac{1}{2}} = \frac{1}{\sqrt{2}}$$

$$(m+1)m - (2m-4)y + 1 = 0, (2m-2)m + (4-m)y - 1 = 0$$

$$m_1 = -\frac{2m-2}{4-m}, \quad m_2 = \frac{m+1}{2m-4}$$

$$m_1 \times m_2 = -1$$

$$-\frac{2m-2}{4-m} \times \frac{m+1}{2m-4} = -1 \Rightarrow \frac{(2m-2)(m+1)}{(4-m)(2m-4)} = 1$$

چون با هم هم‌خطی نیستند پس آید - $\frac{2m-2}{4-m}$ هم‌خطی است
 پس هیچ مقدار m این دو خط موازی نیست (هیچ مقدار حقیقی m هم‌خطی نیست)

جواب

$$AM: m+2y = 3 \quad A = AB \cap AC, m+2y = 3, y = 2m-1 \quad (4)$$

$$AC: y = 2m-1 \quad m=1, y=1 \rightarrow A(1, 1)$$

$$BC: 2m+y = 4 \quad B = AB \cap BC; m+2y = 3, m+y = 4 \quad (5)$$

$$B(2, -1)$$

$$C = A \cap BC \rightarrow y = 2m-1, m+y = 4 \rightarrow C\left(\frac{5}{2}, \frac{3}{2}\right)$$

$$M_{BC}\left(\frac{2+5}{2}, \frac{-1+3}{2}\right) = \left(\frac{7}{2}, \frac{1}{2}\right)$$

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

$$AH = \frac{|1+1-4|}{\sqrt{1+4}} = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5} \rightarrow \frac{AM}{AH} = \frac{\frac{\sqrt{2}}{2}}{\frac{2\sqrt{5}}{5}} = \frac{\sqrt{10}}{4}$$

مسئله

Date

Subject

$$m = -\frac{1}{r} \quad \text{و پس } z = \sqrt{r_0}$$

$$y = -\frac{1}{r}x + b \rightarrow +\frac{1}{r}x + y - b = 0$$

$$\frac{|y - b|}{\sqrt{(\frac{1}{r})^2 + 1}} = \frac{|b|}{\sqrt{\frac{1}{r^2} + 1}} = \sqrt{r_0} \rightarrow |b| = \sqrt{\frac{r_0}{\frac{1}{r^2} + 1}}$$

$$|b| \times \sqrt{\frac{r}{1+r^2}} = \sqrt{r_0} \rightarrow |b| \times \frac{r}{\sqrt{1+r^2}} = \sqrt{r_0}$$

$$|b| = \sqrt{r_0} \times \frac{\sqrt{1+r^2}}{r} \rightarrow |b| = \frac{\sqrt{r_0(1+r^2)}}{r} = \Delta \rightarrow b = \pm \Delta$$

$$y = -\frac{1}{r}x + b \quad A(0, \Delta) \quad O = -\frac{1}{r}x + b \rightarrow x = rb$$

$$B(rb, 0) = (0, 0) \quad (-10, 0)$$

$$AB = \sqrt{(rb)^2 + b^2} = \sqrt{r^2b^2 + b^2} = \sqrt{\Delta^2b^2} = |b|\sqrt{1+r^2} \rightarrow b = \Delta$$

$$AB = \Delta\sqrt{1+r^2}$$

$$my - \epsilon n = \frac{rm}{m} \rightarrow y = \frac{\epsilon n + rm}{m}$$

$$y + mn = m + r \rightarrow y = \frac{m + m + r}{m} \rightarrow \frac{\epsilon}{m}(n) = (-m+1)m$$

$$A = \frac{\Delta}{r} \quad C = r \times \frac{1}{r} = 1$$

$$A + B = \frac{\epsilon + rm - m}{rm - r}$$

$$S = P \times \frac{1}{r} \times \frac{rm - m + \epsilon}{rm - r} = \frac{\Delta}{r}$$

$$S_0 = \left| \frac{m^r - m + r}{r(m^r)} \right| \times r \times \frac{1}{r} = \frac{\Delta}{r} \rightarrow \frac{m^r - m + r}{m^r} = \frac{\Delta}{r} \rightarrow m^r - m + r = \frac{\Delta}{r} \times m^r$$

$$m = r$$

④

$$y_2 r_m - r_0 \rightarrow r_m - y - r_0 = 0$$

$$m(r, r)$$

$$r_m - y + C = 0$$

معادله فریب

$$m = 0 \rightarrow y_2 = r_0$$

$$P(0, -r_0)$$

⑤

$$P'_2(r_m - m_p, r_y - y_p)$$

$$m'_2 r(r) = 0 = \varepsilon$$

$$y'_2 r(-r)(r) = -\varepsilon + r_2 = 1$$

$$P'(\varepsilon, -1)$$

$$r(\varepsilon) - (-1) + C = 0 \rightarrow 1 + 1 + C = 0 \rightarrow C = -2$$

$$r_m - y - 2 = 0 \rightarrow y_2 = r_m - 2$$



$$y_2 = m + d \rightarrow m - y + d = 0$$

⑥

$$m'_2 = m_0 - rA(Am_0 + By_0 + C)$$

$$A^r + B^r$$

⑦

$$y'_2 = y_0 - rB(Am_0 + By_0 + C)$$

$$A^r + B^r$$

$$A = 1 \quad B = -1 \quad C = d \quad m_0 = 1 \quad y_0 = r$$

$$Am_0 + By_0 + C = 1 \times 1 + (-1) \times r + d = 1 - r + d = \varepsilon$$

$$A^r + B^r = 1 + (-1)^r = r$$

$$m'_2 = 1 - r \times 1 \times \varepsilon = 1 - \varepsilon = r$$

$$y'_2 = r - (-1) \times \varepsilon = r - (-\varepsilon) = r$$

$$A'(-r, r) \rightarrow a = -r \quad b = r \rightarrow r b - a \rightarrow 1r + r = 2r$$