

subject

$$m = \frac{\Delta y}{\Delta x} \rightarrow \frac{1 - (-4)}{2 - 2} = \frac{-12}{2} = -6$$

(1)

← قرینه در معکوس $\frac{1}{v}$

(2)

$$m \left| \begin{array}{l} \frac{2+2}{2} = 2 \\ \frac{1-4}{2} = -1.5 \end{array} \right.$$

$$y - y_0 = m(x - x_0)$$

$$y - 1 = \frac{1}{v}(x - 2) \rightarrow$$

$$y = \frac{1}{v}x + \frac{2}{v}$$

$$m_{BC} = \frac{2-v}{-1-(-2)} = \frac{-2}{1} \rightarrow y - v = \frac{-2}{1}(x - 2)$$

(3)

$$\rightarrow 4y + 2x - 5 = 0$$

$$AH = \frac{|2 \cdot 1 + 4 \cdot 2 - 5|}{\sqrt{2^2 + 4^2}} = \frac{10}{\sqrt{20}} = \sqrt{5}$$

(4)

$$BC = \sqrt{(x_c - x_3)^2 + (y_c - y_3)^2} = \sqrt{2^2 + 2^2} = 2\sqrt{2} \quad BC - AH = 5 - 2\sqrt{2}$$

$$(4y - x - v = 0) \xrightarrow{\times 2} 8y - 2x - 12 = 0$$

$$4y - x - 2 = 0$$

(5)

$$r = \frac{|c - c'|}{\sqrt{a^2 + b^2}} = \frac{|12 - 2|}{\sqrt{14 + 8}} = \frac{10}{\sqrt{22}} = \frac{5}{\sqrt{11}} \quad r = \frac{5}{\sqrt{11}}$$

(6)

$$S = \pi r^2 \rightarrow \left(\frac{5}{\sqrt{11}}\right)^2 \times \pi = \frac{25}{11} \pi$$

$$MAB \leq \frac{1-r}{\varepsilon-r} \leq -1 \quad (mCH \leq 1) \quad (5)$$

$$M \left| \begin{array}{l} \frac{r+\varepsilon}{r} \leq r \\ \frac{1+r}{r} \leq r \end{array} \right.$$

$$CH \rightarrow y+r \leq x+1 \quad (y \leq x-r)$$

$$y-y_A \leq m(x-x_A)$$

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

$$x-r \leq -x+r \rightarrow rx = v \rightarrow x \leq \frac{v}{r} \quad y \leq \frac{r}{r}$$

$$MH \leq \sqrt{\left(\frac{v}{r}-r\right)^2 + \left(\frac{r}{r}-r\right)^2} \leq \frac{\sqrt{r}}{r}$$

$$(rm-r)x + (\omega-m)y - v \leq 0 \quad m_1 \leq \frac{rm-r}{m-\omega} \quad (6)$$

$$(m+1)x - (rm-\varepsilon)y + 1 \leq 0$$

$$m_2 \leq \frac{m+1}{rm-\varepsilon} \quad (5)$$

$$x \rightarrow m_1 \times m_2 \leq -1$$

$$\frac{rm-r}{m-\omega} \times \frac{m+1}{rm-\varepsilon} \leq -1 \quad \frac{rm-r}{m-\omega} \leq \frac{-rm+\varepsilon}{m+1}$$

$$\rightarrow rm^2 - rm + rm - r \leq -rm^2 + \varepsilon m + 1 - r_0 \rightarrow \omega m^2 - 1rm + 1n \leq 0 \rightarrow \Delta \leq 0$$

$$AB \rightarrow x+y=r \quad y = \frac{-1}{r}x + \frac{r}{r}$$

$$A(1,1)$$

$$AC \rightarrow y \leq rx-1$$

$$B(\omega, -1)$$

$$BC \rightarrow x+y \leq \varepsilon \quad y \leq -x+\varepsilon$$

$$C\left(\frac{\omega}{r}, \frac{v}{r}\right)$$

subject

$$(1) \frac{\omega}{r} x_A = \frac{\omega}{r} \rightarrow x_A = 1 \quad y_A = 1$$

$$(2) \frac{1}{r} x_B = \frac{\omega}{r} \rightarrow x_B = \omega \quad y_B = -1$$

$$(3) x_C = \omega \quad x_C = \frac{\omega}{r} \quad y_C = \frac{v}{r}$$

$$\frac{\omega + \frac{\omega}{r}}{r} \quad \frac{10}{r} \checkmark$$

M

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

$$AM = \sqrt{\left(1 - \frac{10}{r}\right)^2 + \left(1 - \frac{v}{r}\right)^2} = \sqrt{\frac{\omega_0}{9}} = \frac{\omega \sqrt{r}}{r}$$

$$AH = \frac{|1 + 1 - 2|}{\sqrt{r}} = \frac{r}{\sqrt{r}} = \sqrt{r}$$

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

$$b(0, b) \quad A(a, 0) \quad y = ax + b \xrightarrow{a = \frac{-1}{r}} y = \frac{-1}{r}x + b$$

$$A \rightarrow 0 = \frac{-1}{r}a + b \rightarrow b = \frac{1}{r}a \quad (a \leq rb)$$

(v)

(5)

$$\frac{|b|}{\sqrt{1 + \frac{1}{r^2}}} = \frac{|b|}{\sqrt{\frac{a^2}{r^2}}} = \sqrt{a} \rightarrow |b| \leq \omega$$

$$AB = \sqrt{a^2 + b^2} = \sqrt{10 + 100} = \sqrt{110} \leq \omega \sqrt{10}$$

subject

$$\left. \begin{aligned} y &= \frac{r}{m}x + r \\ y &= (1-m)x + r \end{aligned} \right\} \text{نقطه تقاطع در } (0, r)$$

①

⑤

$$y_B = \frac{r}{m}x_B + r \quad y_B \leq 0 \quad \frac{r}{m}x_B + r \leq 0$$

$$x_B \leq -\frac{m}{r}, \quad y_B \leq 0$$

$$\left\{ \begin{aligned} y_C &= (1-m)x_C + r \quad y_C \leq 0 \quad 0 \leq (1-m)x_C + r \\ (1-m)x_C &\leq -r \rightarrow x_C \leq \frac{-r}{1-m} \quad y_C \leq 0 \end{aligned} \right.$$

$$C \left| \frac{r}{m-1} \right|$$

$$B \left| \frac{-m}{r} \right|$$

$$A \left| r \right|$$

$$|x_B - x_C| \leq \frac{\omega}{r} \quad \left| \frac{r}{m-1} + \frac{m}{r} \right| \leq \frac{\omega}{r}$$

$$1 \quad \frac{m^2 - m + 1}{r(m-1)} \leq \frac{\omega}{r} \quad m^2 + 1 - m \leq \omega(m-1)$$

$$m^2 - \omega m + 1 \leq 0 \quad m \leq \mu$$

$$2 \quad \frac{m^2 - m + 1}{r(m-1)} \leq \frac{\omega}{r} \quad m^2 - m + 1 \leq -\omega m + \omega$$

$$m^2 + \omega m - 1 \leq 0 \quad m \leq -1$$

$$-1 \times r \leq -r$$

5

subject

$$L_1 \quad y = rx - r$$

(9)

$$L_r \quad y = rx - c$$

$$L_p \quad y = rx - \frac{c+r}{r}$$

$$-r \leq \varepsilon - \frac{c+r}{r} \rightarrow \frac{c+r}{r} \leq y$$

L_r(p)/AA

(5)

$$c+r \leq 1r$$

$$c \leq r$$

$$L_r \leq rx - r$$

$$y = x + \omega$$

$$m \leq 1$$

$$\rightarrow m_{AA'} \leq -1$$

(10)

$$y - r \leq -x + 1 \rightarrow y \leq -x + r$$

(5)

$$x + \omega \leq -x + r$$

$$rx = -r \quad x \leq -1 \quad y \leq \varepsilon$$

جیم

AA' بریم

$$rb - a \leq 1r - (-r) \leq \underline{\underline{1\omega}}$$

$$m \left| \begin{array}{l} \frac{a+r}{r} \leq -1 \rightarrow a \leq -r \\ \frac{b+r}{r} \leq \varepsilon \rightarrow b \leq r \end{array} \right.$$