

1A آئینہ

فکریہ

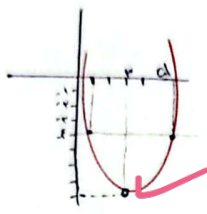
الف) $\alpha \rightarrow$ min ext $\left\{ \begin{aligned} x &= \frac{-b}{2a} = \frac{-k}{k} = -1 \\ y &= \frac{-\Delta}{4a} = \frac{-(14-1)}{4} = -\frac{13}{4} \end{aligned} \right.$

①

ب) $\alpha \rightarrow$ max ext $\left\{ \begin{aligned} x &= \frac{-b}{-2a} = \frac{-k}{-k} = 1 \\ y &= \frac{-(9-k_0)}{-4} = \frac{13}{4} \end{aligned} \right.$

ب

الف) min ext $\left\{ \begin{aligned} x &= \frac{q}{r} = \frac{9}{1} = 9 \\ y &= 9 - 11 + 1 = -1 \end{aligned} \right.$

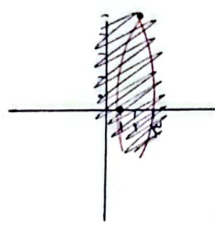


$x=1 \quad y=1-9+1=-7$

②

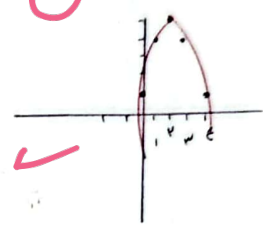
ب) max ext $\left\{ \begin{aligned} x &= \frac{k}{-k} = -1 \\ y &= -k + 1 + 1 = 2 \end{aligned} \right.$

x	0	1	-1	k
y	1	k	-k	1



$x=1 \quad y=0$
 \downarrow
~~.....~~
~~.....~~

ب



Step 1 $\rightarrow k(x-\alpha)(x-\beta)(x-\delta) = 0$
 $\rightarrow -k\alpha\beta\delta = -\frac{1}{k} \Rightarrow \delta = \frac{-1}{k}$

$\rightarrow k \left(-\frac{1}{k}\right)^2 + k \left(-\frac{1}{k}\right) - 9 \left(-\frac{1}{k}\right) - r = 0$
 $-\frac{1}{14} + \frac{k}{14} + \frac{9}{k} - r = 0$
 $\frac{9k+k}{14} = r \quad 9k+k = 14r$
 $k = -14r$

$\sqrt{\alpha} - \sqrt{\beta} = 1 \quad \alpha^2 - r m \alpha + m = 0$
 $(\sqrt{\alpha} - \sqrt{\beta})^2 = 1 \rightarrow \alpha + \beta - 2\sqrt{\alpha\beta} = 1$
 $\frac{\alpha}{s} - \frac{2\sqrt{\alpha\beta}}{p} = 1$
 $r m - 2\sqrt{m} = 1$
 $r^2 \epsilon - 2\epsilon - 1 = 0 \quad \Delta = 4 + 4 = 8 \quad \epsilon = \frac{2 \pm \sqrt{8}}{2} = 1 \pm \sqrt{2}$
 $\epsilon = 1 + \sqrt{2} \quad \sqrt{m} = 1 \quad m = 1$

$r m^2 - m \alpha - m = 0$
 $p = \frac{m}{r} = \frac{-1}{r}$

④

$r m^2 (m+r) \alpha + m \rightarrow \Delta = m^2 + \epsilon + \epsilon m - \lambda m = m^2 - \epsilon m + \epsilon$
 $\frac{\sqrt{\Delta}}{14} = \frac{m^2 - \epsilon m + \epsilon}{14} = \frac{m(m-\epsilon) + \epsilon}{14} = \frac{m(m-\epsilon)}{14} + \frac{\epsilon}{14}$
 $\frac{m^2 - r m}{k} / \frac{-m^2 + r m}{\epsilon} \quad m = \frac{m^2 - r m}{k}$
 $-m^2 + r m = k \quad -m^2 + r m - r = 0 \quad m = 1$
 $m^2 - r m - r = 0 \rightarrow m = 1$

$y \rightarrow \min$

ax. 1

(4)

$$n = -\frac{r}{ra}$$

$$y = -\frac{(a - \epsilon a^T) \cdot v}{\epsilon a} = \frac{v}{\lambda}$$

$$\rightarrow Va = -1\lambda + \lambda a^T \rightarrow \lambda a^T - Va - 1\lambda = 0 \quad \Delta = 940$$

$\alpha, \beta \quad \alpha = \sqrt{n-1} \rightarrow S = \epsilon n = a+1 \quad \alpha+1 \leq \epsilon n \quad \epsilon n = \epsilon n^T \rightarrow n=1$
 $\beta = \sqrt{n+1} \quad P \leq \epsilon n^T - 1 = a$

$\alpha, \beta \quad \alpha = \sqrt{m-1} \rightarrow S = \epsilon m - r = a+1 \rightarrow S = \epsilon m - r = 0 \quad m=1$
 $\beta = \sqrt{m} \quad P \leq \epsilon m^T - \epsilon m = b$
 $\rightarrow 14 - \lambda = b \rightarrow b = \lambda$

$y = -a n^T + a n + r / (b n^T - b n - 1 - y)$

$$\left| \begin{array}{l} n = \frac{a}{-ra} = \frac{1}{r} \\ y = \frac{a^T + \lambda a}{\epsilon a} \end{array} \right. \quad \left. \begin{array}{l} -\frac{a^T + \lambda a}{\epsilon a} + \frac{b a}{\epsilon} - b \frac{1}{r} - 1 = \frac{b}{r} - \frac{b}{r} - 1 \\ a^T + \lambda a = a(a+1) = 1 \\ a^T + \lambda a + 1 = 0 \end{array} \right.$$

$\frac{a}{r} + r = -1 \quad \left[\frac{a}{r} = -1 - r \right] \quad n = -1 - r$

$r \alpha + n^T + \epsilon n + \beta = 0$

$$\alpha \beta = \frac{B}{r \alpha} \Rightarrow \alpha \beta = \frac{B}{r \alpha} \Rightarrow \alpha = \frac{B}{r \alpha}$$

$\alpha = \pm \frac{1}{0}$

$\alpha + \beta = \frac{\epsilon}{r \alpha} \quad \frac{1}{0} + \beta = \frac{-\epsilon}{r \alpha} \Rightarrow \frac{1}{0} + \beta = \frac{-\epsilon}{r \alpha} \quad \frac{r \alpha}{r \alpha} = \beta \quad \beta = \frac{-r \alpha}{r \alpha} = -1$

$\frac{-r \alpha}{r \alpha} + \beta = \frac{r \alpha}{r \alpha} \quad \beta = \frac{r \alpha}{r \alpha} \quad \alpha = -\frac{1}{\alpha}$

$y = 19 - 100 \times \frac{r \alpha}{r \alpha} = -\frac{1}{0} \rightarrow y = 0$

$S = a + b = a^T + b^T - 1\lambda \quad \alpha \beta = \alpha + \beta - 1 \rightarrow P = a + b - 1 = S - 1$

$S = S^T - rP - 1\lambda = S^T - r(S - 1) - 1\lambda = S^T - rS - S + r - 1\lambda = S^T - rS - 1 = 0$

$S = 0 \quad a + \beta = 0$

$$x^2 - (a+1)x + a = 0 \xrightarrow{a+b+c=0} \begin{cases} x_1 = 1 \\ x_2 = a \end{cases} \xrightarrow{\text{مورد نبودن}} a = 3$$

v

$$x^2 - 1 \cdot x + b \xrightarrow{\substack{\text{درجه زوج} \\ \text{مترابلی}}} 2x + 2x + 2 = 1 \rightarrow x = 2 \rightarrow \text{پسها 4, 4}$$

$$(4 \times 4) - (3 \times 1) = 16 - 3 = \boxed{13}$$

$$y = -ax^2 + ax + 2 \rightarrow S\left(\frac{1}{4}, \frac{a}{4} + 2\right)$$

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$$y = 2x^2 - bx - 1 \rightarrow S\left(\frac{1}{4}, -\frac{b}{4} - 1\right)$$

$$2b\left(\frac{1}{4}\right) - b\left(\frac{1}{4}\right) - 1 = \frac{a}{4} + 2 \rightarrow \frac{a}{4} = -3 \rightarrow a = -12$$

$$-a\left(\frac{1}{4}\right) + a\left(\frac{1}{4}\right) + 2 = -\frac{b}{4} - 1 \rightarrow -\frac{a}{4} - 2 = -\frac{b}{4} - 1 \rightarrow b = -4$$

$$b - a = -4 - (-12) = 8$$