

1) ا) $y = ka^t - \epsilon a^t + 1 \rightarrow \text{ext} \left\{ \begin{array}{l} \frac{-b}{ka} = \frac{\epsilon}{\epsilon} = 1 \\ \frac{-\Delta}{\epsilon a} = \dots = -1 \end{array} \right. \quad \min \left| \begin{array}{l} 1 \\ -1 \end{array} \right.$ حساب

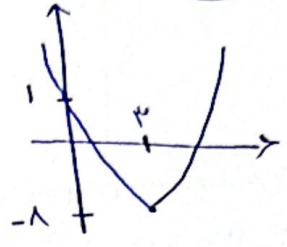
$a > 0$
min

ب) $y = -ka^t + \epsilon a^t - \Delta$
 $a < 0$
max

ext $\left\{ \begin{array}{l} \frac{b}{ka} = \frac{-\epsilon}{\epsilon} = -1 \\ \frac{-\Delta}{\epsilon a} = \dots = \frac{-1}{1} \end{array} \right.$ max $\left| \begin{array}{l} \epsilon \\ -\epsilon \end{array} \right.$

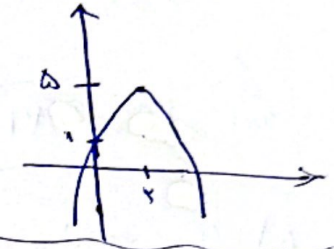
1) $y = a^t - \epsilon a^t + 1$
 $a > 0$
min

ext $\left\{ \begin{array}{l} \frac{-b}{ka} = \frac{\epsilon}{\epsilon} = 1 \\ \frac{-\Delta}{\epsilon a} = \dots = -1 \end{array} \right.$



ب) $y = -a^t + \epsilon a^t + 1$
 $a < 0$
max

ext $\left\{ \begin{array}{l} \frac{-b}{ka} = 1 \\ \frac{-\Delta}{\epsilon a} = \dots = \Delta \end{array} \right.$



1) $\alpha + \beta = 1 \rightarrow 5$
 $\alpha - \beta = -1 \rightarrow 10$

$a^t - 5 + 10 = a^t - a - 1$
 $(a^t - a - 1) = \epsilon a^t + \epsilon a^t - 9a - 1$
 $\rightarrow \epsilon a^t + a^t (-\epsilon - a) + 9(-1 - a) = 0$
 $\epsilon a^t + a^t (-\epsilon - a) + 9(-1 - a) = 0$
 $\epsilon a^t + a^t (-\epsilon - a) + 9(-1 - a) = 0$
 $\epsilon a^t + a^t (-\epsilon - a) + 9(-1 - a) = 0$

1) $(\sqrt{\alpha} - \sqrt{\beta})^2 = 1$
 $\Rightarrow \alpha + \beta - 2\sqrt{\alpha\beta} = 1$
 $\alpha + \beta = 5$
 $5 - 2\sqrt{\alpha\beta} = 1$
 $2\sqrt{\alpha\beta} = 4$
 $\sqrt{\alpha\beta} = 2$
 $\alpha\beta = 4$
 $\alpha + \beta = 5$
 $\alpha\beta = 4$
 $\alpha = 4, \beta = 1$
 $\alpha = 1, \beta = 4$

د) $y = ka^t - (m+1)a^t + m$

$|m| \times \frac{|m-1|}{m} = \frac{1}{1}$
 $m \times (m-1) = 1 \Rightarrow m^2 - m - 1 = 0$

$m^2 - m - 1 = 0$
 $(m+1)(m-1) = 0$
 $m = 1$
 $m = -1$

$\frac{-b}{ka} = \frac{-m}{1} = -1$
 $\frac{-\Delta}{\epsilon a} = \frac{1}{1} = 1$

$| \alpha - \beta | \times | m | = 1$
 $\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{m^2 - 1}}{1} = |m - 1|$

8) $y = a n^t + b n^t + c$

ext $\left| \begin{array}{l} -\frac{b}{r a} = -\frac{r}{r a} \\ -\frac{D}{r a} = \frac{b}{r a} \end{array} \right. \rightarrow -\frac{(b^r - \epsilon a^r)}{\epsilon a} = \frac{-r + \epsilon a^r}{\epsilon a} = \frac{r}{\lambda}$

$r \lambda a^r - r + r \lambda a^r \div \lambda \Rightarrow \lambda a^r - r a - \lambda \Rightarrow a^r - r a - \lambda \epsilon \dots$
 $(a+r)(a-r) = 0$
 $a = \frac{r}{\lambda} = \frac{r}{\epsilon} \rightarrow a = \frac{r}{\epsilon}$
 $a = \frac{r}{\lambda} \quad \text{min}$

v) $a^t - (a+1)a^t + a = 0 \rightarrow \dots \rightarrow r k + 1 - r k - 1 \rightarrow s = \frac{-b}{a} \rightarrow (a+1) \rightarrow r k + 1 + r k - 1 = a + 1$
 $a = r k - 1$

$r k(k-1) \rightarrow r k^2 - r k = a$
 $r k^2 - r k - a = 0$
 $k = 1 \rightarrow a = r k - 1 = r - 1$

$a^t - (r a + 1) a^t + b = 0 \rightarrow z$
 $r a + 1 \Rightarrow z + r, r a + 1 \Rightarrow r z = r a - 1$
 $a = r$
 $r z - 1 \Rightarrow z = \frac{1}{r}$
 $b = r \cdot z(z+r) = b$
 $\epsilon x r = \frac{b}{r \epsilon}$

1) $y = a n^t + a n^t + r \rightarrow -\frac{b}{r a} = \frac{1}{r}$
 $y = r b n^t - b n^t - 1 = \frac{-b}{r a} = \frac{b}{\epsilon b} = \frac{1}{\epsilon}$
 $\frac{1}{r} \rightarrow -a x \frac{1}{\epsilon} + \frac{1}{r} a + r = \frac{a+1}{\epsilon}$
 $r b x \frac{1}{\epsilon} - b x \frac{1}{r} = 1 = -1$
 $\frac{a+1}{\epsilon} - 1 \rightarrow a+1 = -\epsilon$
 $a = -1$
 $b - a = -r - (1+r) = -1 - r$

9) $\alpha \cdot \beta = \frac{\beta}{k \alpha} \Rightarrow y = -\alpha n^t + \epsilon a + 1$
 $\alpha = \frac{1}{\delta}$
 $\alpha + \beta = \frac{-\epsilon}{r \alpha} \rightarrow \frac{1}{\delta} = \beta = \frac{-\epsilon}{\delta} - \frac{1}{\delta} = -1$
 $\frac{1}{\delta} = \beta = \frac{\epsilon}{\delta} + \frac{1}{\delta} = 1$

1.) $a \cdot b = a + b - 1 \rightarrow p = s - 1$
 $a + b = a^r + b^r - r \rightarrow s = s^r - r p - r$
 $s = s^r - r s - 1$
 $s^r - r s - 1 = 0$
 $s = 1$
 $s = -r a = r a + b$