

تکلیف ۱۲ - اذیت C

$$y = x^2 - \varepsilon x + 1 \rightarrow \min \left| \begin{array}{l} \frac{-b}{2a} = 1 \\ \varepsilon - 1 + 1 = 1 \end{array} \right.$$



(1, 1)

نکته

(1)

$$y = -x^2 + \varepsilon x - 1 \quad \max \left| \begin{array}{l} \frac{-b}{2a} = 1 \\ -\varepsilon + 1 - 1 = -\varepsilon \end{array} \right.$$



(2)

$$y = 2x^2 + (m+1)x + \frac{1}{2}m + 2 = 0 \rightarrow \Delta > 0 \rightarrow (m+1)^2 - 4 \times 2 \times (\frac{1}{2}m + 2) > 0 \quad (الف) \quad (2)$$

$$\rightarrow m^2 + 2m + 1 - 4m - 8 > 0$$

$$m^2 - 2m - 7 > 0 \rightarrow m \in (-\infty, -3) \cup (5, +\infty) \quad \leftarrow \frac{-3 \pm \sqrt{17}}{2}$$

$$\Delta = 0 \rightarrow m^2 - 2m - 7 = 0 \rightarrow (m-5)(m+3) = 0 \rightarrow m = -3, 5 \quad (ب) \quad (5)$$

$$\Delta < 0 \rightarrow m^2 - 2m - 7 < 0 \rightarrow m \in (-3, 5) \quad (ج) \quad (2)$$

$$\Delta \geq 0 \rightarrow m^2 - 2m - 7 \geq 0 \rightarrow m \in (-\infty, -3] \cup [5, +\infty)$$

$$y = (m-2)x^2 - 2(m+1)x + 10$$

(م)

$$\Delta > 0 \rightarrow (2m+2)^2 - 4 \times 10 \times (m-2) > 0 \rightarrow 4m^2 - 16m + 48 > 0 \quad (الف)$$

$$\div 4 \rightarrow m^2 - 4m + 12 > 0 \quad (2) \quad (ج)$$

$$\rightarrow p > 0 \rightarrow \frac{10}{m-2} > 0 \rightarrow m > 2 \quad (1)$$

$$s < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow -1 < m < 2 \quad (2) \quad \left. \begin{array}{l} (1) \\ (2) \end{array} \right\} \Rightarrow \emptyset$$

$$s < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow -1 < m < 2$$

$$p < 0 \rightarrow \frac{10}{m-2} < 0 \rightarrow m < 2$$

$$m \in (-1, 2)$$

(ج)

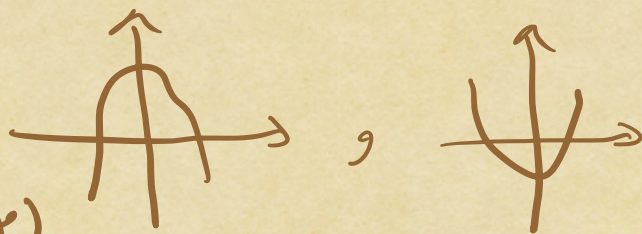
$$y = (m-r)u^r - r(m+1)u + 10$$

(ع)

$$p < 0 \Rightarrow \frac{10}{m-r} < 0 \rightarrow m-r < 0 \leftarrow$$

(الف)

$$\rightarrow m < r \rightarrow \underline{m \in (-\infty, r)}$$



(ج)

$$\frac{-D}{r\alpha} = \frac{r(m+r)}{r(m-r)} = -r \Rightarrow -\varepsilon(m+1) = r(m+r)$$

(ب)

$$u = um \rightarrow \underline{m = 1}$$

$$\frac{r}{\mu} u^r - (r \sin \alpha) u + \frac{r}{r} = 0 \rightarrow \Delta \geq 0 \Rightarrow \varepsilon \sin^2 \alpha - \varepsilon \times \frac{r}{\mu} \times \frac{r}{r} \geq 0$$

$$\Rightarrow \varepsilon \sin^2 \alpha - \varepsilon \geq 0$$

(د)

$$\hookrightarrow \varepsilon \sin^2 \alpha \geq \varepsilon \rightarrow \sin^2 \alpha \geq 1 \xrightarrow{0 \leq \sin^2 \alpha \leq 1} \sin^2 \alpha = 1 \rightarrow \sin = \pm 1$$

$$\begin{cases} \sin = 1 \rightarrow \frac{r}{\mu} u^r - r u + \frac{r}{r} = 0 \rightarrow \Delta = \varepsilon - \varepsilon \times \frac{r}{r} \times \frac{r}{r} = 0 \\ \sin = -1 \rightarrow \frac{r}{\mu} u^r + r u + \frac{r}{r} = 0 \rightarrow \Delta = 0 \end{cases}$$

$$\rightarrow u = \frac{r \pm 0}{\frac{\varepsilon}{r}} = \frac{r}{\varepsilon}$$

$$u = \frac{-r \pm 0}{\frac{\varepsilon}{r}} = \frac{-r}{\varepsilon}$$

QOQ

$$y = \frac{(u u^r - r u - 1)(u u^r - r u - \omega)}{1 - u^r} > a + c - b \rightarrow u = -1, \frac{\omega}{r} \text{ (ه)}$$

$$a + b + c = 0 \rightarrow u = 1, -\frac{1}{\mu} \rightarrow \frac{(u-1)(ru+1)(u+1)(ru-\omega)}{(1-u)(1+u)}$$

(و)

$$\rightarrow (ru+1)(ru-\omega) > u u^r - r u - \omega \rightarrow y = \frac{-D}{\varepsilon \alpha} = \frac{-r \Lambda \theta}{r \varepsilon}$$

$$m n^r - (m+r) n - r = 0 \rightarrow r_{SS} \Delta p + v \rightarrow \psi_{\infty} \frac{m+r}{m} \cdot \frac{-r}{m} \omega_{+v} \textcircled{V}$$

$$\rightarrow \frac{\psi_{m+r}}{m} = \frac{v_{m-1}}{m}$$

$$\rightarrow \psi_{m+r} = v_{m-1} \rightarrow \Sigma m = 14 \rightarrow m = 8$$

$$\alpha^r + \beta^r = S^r - r\rho = \left(\frac{m+r}{m} \right)^r - r \left(\frac{-r}{m} \right) = \frac{9}{8} + 1 = \frac{17}{8} \textcircled{17/8}$$

$$\frac{\Sigma \alpha + \beta^{\Delta}}{\Delta \beta^r} =$$

$$\beta^{\Sigma} = (\Delta \beta - r)^r = r \Delta \beta^r - r\beta + \Sigma \rightarrow r \Delta (\Delta \beta - r) - r \cdot \beta + \Sigma = 0$$

$$1 r \Delta \beta - \Delta \beta - r \cdot \beta + \Sigma = 0$$

$$\rightarrow \beta \Sigma = 1 \Delta \beta - \Sigma r \xrightarrow{\times \beta}$$

$$\beta^{\Sigma} = 1 \cdot \Delta \beta^r - \Sigma r \beta$$

$$\leftarrow \Delta \beta - r$$

$$\beta^{\Delta} = \Sigma v 9 \beta - r 1_0$$

$$\rightarrow \frac{\Sigma (\Delta - \beta) + \Sigma v 9 \beta - r 1_0}{\Delta (\Delta \beta - r)} = \frac{\Sigma v \Delta \beta - 1 9_0}{r \Delta \beta - 1_0} = \frac{1 9 (1 \Delta \beta - 1_0)}{\Delta \beta - 1_0}$$

$$\textcircled{19}$$

$$y_1 = a n^r + b n + c \xrightarrow{(\Delta, \Sigma)} c = \Sigma$$

$$y^r = r n + 1_0 \xrightarrow{n=r} y = \Sigma \rightarrow 1 \Sigma = \Sigma a + r b + \Sigma \rightarrow r a + b = \Delta$$

$$n = \frac{1}{r}, y = \Sigma \rightarrow \Sigma a - r b + \Sigma \rightarrow \Sigma a - r b \rightarrow b = \frac{\Sigma a}{r}$$

$$\rightarrow r a + \frac{\Sigma a}{r} = \Delta \rightarrow \underline{a = 1} \quad b = r$$

$$a = -\frac{r}{r}$$

$$y = r u^r + (m+1)u + m + 4 = 0 \rightarrow r u^r + m u + m + 4 = 0 \quad (10)$$

$$\Delta = 0 \Rightarrow m^r - \varepsilon \times 4 \times (m+4) > 0$$

$$m^r - 4m - \varepsilon > 0.$$

$$(m-4)(m+4)$$

$$m = 14$$

$$\checkmark m = 5 - \varepsilon$$