

1 اف) $y = x^2 - 4x + 7 \rightarrow C = 7 \rightarrow \Delta = 16 - 28 < 0$ ①
 2 $a > 0$
 3 $\text{ext} \begin{cases} -\frac{b}{2a} = \frac{4}{2} = 2 \\ x - 4 + 7 = 3 \end{cases}$
 4

6 ب) $y = -x^2 + 4x - 1 \rightarrow C = -1, \Delta > 0, (2, 3), a < 0$
 7 $\text{ext} \begin{cases} -\frac{b}{2a} = \frac{-4}{-2} = 2 \\ -x^2 + 4x - 1 = 3 \end{cases}$
 8

12 اف) $\Delta > 0 \rightarrow (m+1)^2 - 4(\frac{m}{2} + 2) > 0 \Rightarrow m^2 + 1 + 2m - 4m - 16 > 0 \Rightarrow$
 13 $m^2 - 2m - 15 > 0 \rightarrow (m - 5)(m + 3) > 0 \Rightarrow$
 14 $m \in (-\infty, -3) \cup (5, +\infty)$
 15

16 ب) $\Delta = 0 \rightarrow \frac{-3}{-1} \leq m \leq \frac{5}{1} \rightarrow m \in [-3, 5]$

18 ج) $\Delta < 0 \rightarrow m \in (-3, 5)$

20 د) $\Delta > 0 \rightarrow m \in (-\infty, -3] \cup [5, +\infty)$

22 ③
 23 اف) $\Delta > 0 \rightarrow f(m+1)^2 - 4(m-2) > 0 \rightarrow f m^2 + 4m + 1 - 4m + 8 > 0$
 24 $\Rightarrow f m^2 - 32m + 14 > 0 \rightarrow \Delta < 0 \rightarrow \text{نوار ①}, \frac{C}{a} > 0 \rightarrow$
 25 $\frac{10}{m-2} > 0 \rightarrow m > 2, -\frac{b}{a} < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{+1} \frac{2}{-}$
 26 $\rightarrow -1 < m < 2 \text{ ②}$
 27 $\text{①} \cap \text{②} \cap \text{③} \rightarrow \{ \}$

$$\text{ب) } \Delta > 0 \rightarrow \textcircled{+} \text{ حلاله , } \frac{C}{a} < 0 \Rightarrow m < 2$$

$$, \frac{-b}{a} < 0 \rightarrow -1 < m < 2 \rightarrow m \in (-1, 2)$$

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الف) $\Delta > 0, \frac{C}{a} < 0$

$\hookrightarrow \textcircled{+} \text{ حلاله } \hookrightarrow m < 2$

$$\text{ب) } \frac{-b}{2a} = -2 \rightarrow -2(m+1) \leq 2(m-2) \rightarrow -m-1 \leq 2m-4$$

$$\rightarrow m \leq 1$$

$$\Delta > 0 \rightarrow (2\sin\alpha)^2 - 4 > 0 \Rightarrow 2\sin\alpha > 2, \quad 2\sin\alpha < -2 \quad \textcircled{a}$$

$$\sin\alpha \leq 1 \downarrow \sin\alpha = -1 \xrightarrow{\sin\alpha = -1} \frac{4}{\mu} x^2 - 2x + \frac{4}{\mu} \rightarrow \Delta = 0, x = \frac{\mu}{2} \checkmark$$

$$\sin\alpha = 1 \rightarrow \frac{4}{\mu} m^2 + 2m + \frac{4}{\mu} \leq 0 \rightarrow \Delta = 0, x = -\frac{\mu}{2} \times$$

$$4m^2 - 2m - 1 = 0 \rightarrow m = 1, m = -\frac{1}{4}, \quad 4m^2 - 2m - 1 = 0 \rightarrow m = -1 \quad \textcircled{d}$$

$$\hookrightarrow \frac{(x-1)(m+\frac{1}{\mu})(x+1)(m-\frac{1}{\mu})}{(x-1)(1-x)} \leq -\left(\frac{2x^2 - 13x - \frac{4}{\mu}}{4}\right)$$

$$m \leq \frac{\omega}{\mu}$$

$$= -m^2 + \frac{13}{4}m + \frac{\omega}{4} \rightarrow -4m^2 + 13m + \omega = 0 \rightarrow y_{\max} = \frac{-\Delta}{4a} = \frac{7199}{-16} = -449.9375$$

$$= \frac{7199}{16}$$

$$38 = \omega p + v \rightarrow \mu \left(\frac{m+2}{m}\right) = \omega \left(\frac{-2}{m}\right) + v \Rightarrow$$

$$38m + 4 = \frac{-2\omega + vm}{m} \Rightarrow 38m + 4 = -2 \rightarrow m = -2$$

$$a^2 + b^2 \leq S^2 - 2p \leq \left(\frac{13}{2}\right)^2 + \frac{1}{2} = \frac{9+13}{2} \leq \frac{13}{2}$$

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$$S = \omega, P = r$$

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$$\frac{r\alpha}{\omega p r} + \frac{B^r}{\omega} \rightarrow \frac{C}{a} \leq \frac{r}{1} + \alpha \beta \Rightarrow \beta = \frac{r}{\alpha} \quad (1)$$

$$\rightarrow \frac{B^r}{\omega} + \frac{\frac{r\alpha}{1}}{\frac{\omega \times r}{\alpha r}} \leq \frac{B^r}{\omega} + \frac{r\alpha}{\omega} \leq \frac{B^r + \alpha r}{\omega} = \frac{S^r - r p r}{\omega} = \frac{1\omega - r}{\omega} \leq 19$$

$$y_i = a n^r + b n + C, C \leq r \frac{n^s - r}{n^s - r} \rightarrow 9a - r b + r = (r \times r) + 10 \quad (4)$$

$$9a - r b = 0 \quad r a + r b + r = (r \times r) + 10$$

$$- \frac{1}{9} a + \frac{1}{r} b \leq 10 \Rightarrow r a \leq 10 \rightarrow a \leq r, b \leq \frac{1}{r} a$$

$$r a n^r + \frac{1}{r} a n + r \leq 0 \xrightarrow{\text{or}} \frac{-b}{r a} = -1, a$$

$$\Delta = 0 \rightarrow m^r - \Lambda(m + 4) \leq 0 \rightarrow m^r - \Lambda m - \Lambda \leq 0 \rightarrow \quad (6)$$

$$(m + 4)(m - 1r) \leq 0 \rightarrow m \leq r, m \leq 1r$$

$$\Delta = 0 \rightarrow m^r - \Lambda(m + 4) \leq 0 \rightarrow m^r - \Lambda m - \Lambda \leq 0 \rightarrow$$