

$$\frac{-\Delta}{f\alpha} = V \Rightarrow \frac{b^2 + 12}{-(f)} = V \Rightarrow 21 = b^2 + 12 \Rightarrow b^2 = 9 \Rightarrow b = \begin{cases} -f \\ f \end{cases}$$

-۱

$$T, \alpha^2 \Rightarrow T^2 + 2T + 3 = 0 \Rightarrow \Delta = 4 - 12 = -8 < 0$$

-۲. الف

$$T, f, \alpha^2 \Rightarrow T^2 - 2T - 15 = 0 \Rightarrow \Delta = 4 + 60 = 64 \Rightarrow \frac{2+8}{2} = 5, \frac{2-8}{2} = -3, \Delta$$

-۳. ب

$$\Delta \leq f, \alpha^2 \Rightarrow \alpha^2 \leq 1$$

$$-f \leq f, \alpha^2 \Rightarrow V \leq \alpha^2 \Rightarrow \begin{cases} -\sqrt{V} \\ +\sqrt{V} \end{cases}$$

$$\alpha, \gamma + \alpha \Rightarrow S \leq 2\alpha + \gamma \Rightarrow S = \frac{1}{f} \cdot f \Rightarrow f \leq 2\alpha + \gamma \Rightarrow 2\alpha \leq \gamma \Rightarrow \alpha \leq \frac{\gamma}{2}$$

-۴. ج

$$B \leq \gamma + \alpha = 1 + 2 = 3$$

$$p \leq 1 + \gamma \leq 3 = \frac{m}{f} \Rightarrow 1 + \gamma \leq m$$

$$\gamma \alpha - B = f \Rightarrow B \leq \gamma \alpha - f \Rightarrow \gamma \alpha - f + \alpha = \gamma \alpha - f + \gamma \Rightarrow \gamma \leq \gamma \alpha - f \Rightarrow \gamma \leq \gamma \alpha \Rightarrow \alpha \geq 1$$

-۵. د

$$\gamma \alpha - f = B \leq f \Rightarrow B = 0$$

$$p = \gamma \alpha = 0 \Rightarrow \frac{m-1}{\gamma} = 0 \Rightarrow m-1 = 0 \Rightarrow m = 1$$

$$\alpha \leq \frac{1}{\alpha} = 1 \Rightarrow p \leq 1 \Rightarrow \frac{m^2 - 1}{-m} = 1 \Rightarrow m^2 - 1 \leq m \Rightarrow m^2 + m - 1 \leq 0 \Rightarrow \frac{-1 \pm \sqrt{5}}{2} \leq m \leq \frac{-1 + \sqrt{5}}{2} = 1, -\gamma = \Delta$$

$$m = -1 \Rightarrow 2m^2 + 1m + 1 = 0 \Rightarrow \Delta = 1 - 8 = -7 < 0$$

در نتیجه سایرین ناممکن است

$$m \leq 1 \Rightarrow -m^2 + f m - 1 = 0 \Rightarrow \Delta \geq 0 \checkmark$$

$$\alpha \beta \leq f \Rightarrow \alpha \leq \frac{f}{\beta} \Rightarrow \frac{f}{\beta} \alpha \leq f \Rightarrow \alpha \leq \frac{f}{\beta} \Rightarrow \beta \leq \frac{f}{\alpha}$$

-۶. هـ

$$\left(\frac{f}{\beta}\right)^2 \alpha \leq f \Rightarrow \alpha \leq \frac{9}{f} \Rightarrow \frac{9}{f} + \frac{f}{\beta} \leq \frac{2f + 12}{12} \Rightarrow \frac{f\beta}{12} = m$$

$$S = \frac{m}{f}$$

$$\alpha, \gamma \alpha \Rightarrow S \leq f \alpha = \frac{f}{f} \Rightarrow \alpha \leq 1 \Rightarrow \beta \leq \gamma \Rightarrow p \leq 3 \Rightarrow 1 = 3 = \frac{m}{f} \Rightarrow m = 3$$

-۷. و

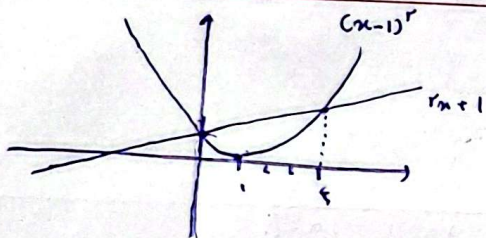
$$\left(\alpha + \frac{r}{\alpha}\right)^n = \alpha^n + n\alpha^{n-1} \frac{r}{\alpha} + \frac{n(n-1)}{2} \alpha^{n-2} \left(\frac{r}{\alpha}\right)^2 + \dots \Rightarrow \left(\alpha + \frac{r}{\alpha}\right)^n = \alpha^n + n\alpha^{n-1} \frac{r}{\alpha} + \frac{n(n-1)}{2} \alpha^{n-2} \left(\frac{r}{\alpha}\right)^2 + \dots$$

$$\alpha^n - n\alpha^{n-1} \frac{r}{\alpha} + \dots = 0 \Rightarrow \alpha^n - n\alpha^{n-1} \frac{r}{\alpha} + \dots = 0$$

$$\Rightarrow \left(\alpha + \frac{r}{\alpha}\right)^n - n\alpha^{n-1} \frac{r}{\alpha} = 0 \Rightarrow (V)^n - n(V)^{n-1} \frac{r}{\alpha} = 0$$

$$\text{بجز } 0 = -1 \cdot T^2 + \Delta \cdot T \Rightarrow T(\Delta - 1 \cdot T) \Rightarrow \boxed{T = \Delta}$$

$$\max = \frac{-\Delta}{2a} = \frac{-\Delta}{-(-f)} = \frac{\Delta}{f} \Rightarrow \boxed{\frac{\Delta}{f}}$$



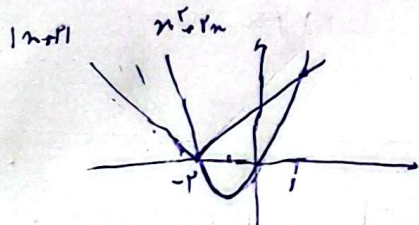
$$\boxed{x = f, 0}$$

$$n^r + 1 - r_{n+1} r_{n+1}$$

$$n^r - f_{n+1}$$

$$n(n-1) = \dots$$

(ب) (ا)



$$\boxed{n = f, 1}$$

$$\begin{aligned} n^r + 1 - r_{n+1} &< -1\alpha \\ n^r + n - r_{n+1} &< -1\alpha \end{aligned}$$

(-)