

| پرتو پرورش | پاسخنامه تشریحی تکلیف شماره ۲۰ آنتن                                                                                                                                                                                                                                                                                                                                                                                                                                            | کلاس یازدهم دختر A                                                |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| الف)       | $3, 9, 1, 1 \rightarrow$ ریشه ها $\rightarrow (n-1)(2n^2+5n-3) =$ معادله<br>$D = R - \{ -3, 9, 1, 1 \}$                                                                                                                                                                                                                                                                                                                                                                        | بکشنه ۱۹-۲۱                                                       |
| ب)         | $-\frac{1}{2}, -3, -1 \rightarrow$ ریشه ها $\rightarrow (n+1)(2n^2+7n+3) =$ معادله<br>$D = R - \{ -1, -3, -\frac{1}{2} \}$                                                                                                                                                                                                                                                                                                                                                     |                                                                   |
| الف)       | $D = R - \{ 1 \}$<br>$D = (-\infty, -3] \cup (1, \infty)$                                                                                                                                                                                                                                                                                                                                                                                                                      | $(n-1)(n^2-n+1) \Delta < 0 \rightarrow$ ریشه ها                   |
| ب)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                   |
| ۳          | $n > 1 \rightarrow n^2 - 5n + 5 - 2n + 5 \rightarrow n^2 - 7n + 10$<br>$n < 1 \rightarrow n^2 + 5n - 5 - 2n + 5 \rightarrow n^2 + 3n$<br>$49 - 40 = 9 \rightarrow \frac{7 \pm 3}{2} \begin{Bmatrix} 5 \\ 2 \end{Bmatrix}$<br>$D = R - \{ -2, 9, 2, 5 \}$                                                                                                                                                                                                                       |                                                                   |
| الف)       | $D = (-\infty, -2]$                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $[m] - 2 \geq 0 \quad [ -n ] \geq 2 \quad n \leq -2$              |
| ب)         | $[n] = 3 \Rightarrow [n] = -1$<br>$(n-4)(n+1) \quad [2, 4) \quad [-1, 0)$<br>$D = R - \{ [2, 4) \cup [-1, 0) \}$                                                                                                                                                                                                                                                                                                                                                               | $n^2 - 2n - 3 \quad [n] = 3 \Rightarrow [n] = -1$<br>$(n-4)(n+1)$ |
| الف)       | $[n - \frac{1}{k}] + [n + \frac{1}{k}] \geq 0 \quad [n - \frac{1}{k}] + [n - \frac{1}{k}] + 1 \geq 0$<br>$2[n - \frac{1}{k}] \geq -1 \quad n \geq \frac{1}{k} \quad D = [\frac{1}{k}, \infty)$<br>$\sqrt{[n - \frac{1}{k}] + [-(n - \frac{1}{k})]}$<br>$[a] + [-a] = 0 \rightarrow a \in \mathbb{Z}$<br>$[a] + [-a] = -1 \rightarrow a \notin \mathbb{Z}$<br>$\Rightarrow n - \frac{1}{k} \in \mathbb{Z} \Rightarrow$<br>$D = \{ n   n = k + \frac{1}{k}, k \in \mathbb{Z} \}$ |                                                                   |
| ب)         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                   |

$$\tan \neq 1 \rightarrow n \neq \frac{-\pi}{4} + k\pi \quad \sin \neq \cos \neq 0$$

$$D = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{4}, k\pi \pm \frac{3\pi}{4}, k\pi \right\}$$

$$1 \geq r \sin^2 \rightarrow \sin^2 \leq \frac{1}{r} \quad |\sin| \leq \frac{1}{\sqrt{r}}$$

$$-\frac{\pi}{2} \leq n \leq \frac{\pi}{2}$$

$$D = \left\{ k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2} \right\}$$

$$r \sin n - 1 \geq 0 \quad \sin n \geq \frac{1}{r} \quad \frac{\pi}{2} \leq n \leq \frac{3\pi}{2}$$

$$D = \left[ \frac{\pi}{2} + 2k\pi, \frac{3\pi}{2} + 2k\pi \right]$$

$$1 - r \cos n \geq 0 \quad \frac{1}{r} \geq \cos n \quad \frac{\pi}{r} \leq n \leq \frac{2\pi}{r}$$

$$D = \left[ \frac{\pi}{r} + 2k\pi, \frac{2\pi}{r} + 2k\pi \right]$$

$$-1 \leq n^2 + 3n + 1 \leq 1 \quad \begin{cases} n^2 + 3n + 1 \leq 1 \rightarrow -r \leq n \leq 0 \text{ (I)} \\ -1 \leq n^2 + 3n + 1 \rightarrow n \leq -2 \cup n \geq -1 \text{ (II)} \end{cases}$$

$$I \cap II \rightarrow D = [-2, 0] \cup [-1, 0]$$

$$0 \leq \sqrt{a - rm} \leq 1 \quad a - rm \geq 0 \rightarrow m \leq \frac{a}{r} \text{ (I)} \quad \left. \begin{array}{l} \sqrt{a - rm} \leq 1 \rightarrow m \geq r \text{ (II)} \end{array} \right\} \text{ I, II} \Rightarrow r \leq m \leq \frac{a}{r}$$

$$D = \left[ r, \frac{a}{r} \right]$$

$$n > 0 \quad 1 - \log_r n > 0 \quad \log_r n < 1 \rightarrow n < r \quad D = (\log_r r)$$

$$n > 0 \quad 1 - \log_{\frac{1}{r}} n > 0 \quad \log_{\frac{1}{r}} n < 1 \quad \frac{1}{r} < n$$

$$D = \left( \frac{1}{r}, \infty \right)$$

$$r^{fm} - n^r - 1 \geq 0 \quad r^{fm} - n^r \geq r^r \quad fm - nr \geq r$$

$$fm - nr - r \geq 0 \quad D = [1, r]$$

$$\frac{rn+a}{r^m+r} \in W \quad rn+a = r^m W + r^r \quad rn - r^m W = r^r + a$$

$$n = \frac{r^m W + a}{r - r^m} \quad \left\{ n \mid n = \frac{rk+a}{r-rk}, k \in W \right\}$$