

$$f = [3, +\infty) \Rightarrow a - 2 = 0 \Rightarrow a = 2$$

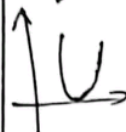
$$\Rightarrow f(x) = \sqrt{2x + b} \Rightarrow f(3) = \sqrt{6 + b} = 0$$

$$\Rightarrow \boxed{b = -6}$$

۱) $\Delta \geq 0 \Rightarrow \Delta = 0$ (✓)

$$4 - 8 + 4m^2 = 0$$

$$\Rightarrow 4m^2 = 4 \Rightarrow m^2 = 1$$

$$\Rightarrow m = \pm 1 \Rightarrow 1 - (-1) = 2$$


$$[m] + [-m] \Rightarrow \begin{matrix} 0 \\ \circ \end{matrix} \text{ برای } m \in \mathbb{Z}, \quad 4 - m^2 \geq 0$$

$$\Rightarrow \cancel{m^2 \leq 4} \quad m^2 \leq 4$$

$$\Rightarrow -2 \leq m \leq 2$$

$$\text{ب) } \frac{(n+1)(n-1)(n^2)(n-3)}{(n-1) \underbrace{(n^2+n+1)}_{\oplus}} \Rightarrow \frac{-1 \quad 0^* \quad 1^* \quad 3}{+\oplus -\oplus -\oplus -\oplus +}$$

$$\Rightarrow P_f = (-\infty, -1] \cup [3, +\infty) \cup \{0\}$$

۱) $|n-2| - 3 \geq 0 \Rightarrow \cancel{n-2 \geq 3} \Rightarrow n \geq 5$
 $2 - n \geq 3 \Rightarrow n \leq -1 \Rightarrow P_f = (-\infty, -1] \cup [5, +\infty)$

ب) $4 \geq |2-n| \Rightarrow n-2 \leq 4 \Rightarrow n \leq 6$
 $2-n \leq 4 \Rightarrow n \geq -2 \Rightarrow P_f = [-2, 6]$ ۵

$$n^3 + 3n^2 \geq 0 \Rightarrow n^2(n+3) \geq 0$$

$$\frac{-3 \quad 0^*}{-\oplus +\oplus +} \Rightarrow P_f = [-3, +\infty)$$

$$1) \text{ } |n| < 1 \Rightarrow n^2 < 1 \Rightarrow -1 < n < 1 \Rightarrow D_f = (-1, 1)$$

$$2) 3 - |n-5| \geq 1 \Rightarrow |n-5| \leq 2 \Rightarrow n-5 \leq 2 \Rightarrow n \leq 7$$

$$5 - n \leq 2 \Rightarrow n \geq 3$$

$$\Rightarrow D_f = [3, 7]$$

$$3) \cos n \neq 0 \Rightarrow n \neq K\pi + \pi/2, K \in \mathbb{Z} \Rightarrow D_f = \mathbb{R} - \{K\pi + \pi/2 | K \in \mathbb{Z}\}$$

$$4) 2 \cos n \neq 1 \Rightarrow n \neq 2K\pi \pm \pi/3, K \in \mathbb{Z} \Rightarrow D_f = \mathbb{R} - \{2K\pi \pm \pi/3 | K \in \mathbb{Z}\}$$

$$5) |2n+1| \neq |n+3| \Rightarrow (2n+1)^2 \neq (n+3)^2 \Rightarrow 3n^2 - 2n + 8 = 0$$

$$\Rightarrow n^2 - 2n + 24 = 0 \Rightarrow (n-6)(n-4) = 0 \Rightarrow n = 6, 4$$

$$\Rightarrow D_f = \mathbb{R} - \{2, -4/3\}$$

$$6) |2n+1| > |n+3| \Rightarrow (2n+1)^2 > (n+3)^2 \Rightarrow 3n^2 - 2n + 8 > 0$$

$$\Rightarrow n^2 - 2n + 24 > 0 \Rightarrow (n-6)(n-4) > 0 \Rightarrow n < 4 \text{ or } n > 6$$

$$\Rightarrow D_f = (-\infty, 4) \cup (6, +\infty)$$

$$n > 1/2, 2n-1 > 5 \Rightarrow 2n > 6 \Rightarrow n > 3$$

$$\log_5^{2n-1} > 1 \Rightarrow 2n-1 > 5 \Rightarrow 2n > 6 \Rightarrow n > 3$$

$$D_f = (-\infty, 3)$$

$$7) 2 \cos n + 1 > 0 \Rightarrow \cos n > -1/2 \Rightarrow D_f = [2K\pi - 2\pi/3, 2K\pi + 2\pi/3]$$

$$8) \frac{n-1}{n+1} > 1 \Rightarrow \frac{n-1}{n+1} - 1 > 0 \Rightarrow \frac{n-1-n-1}{n+1} > 0$$

$$\Rightarrow \frac{-2}{n+1} > 0 \Rightarrow n+1 < 0 \Rightarrow n < -1, n \neq -1 \Rightarrow D_f = (-\infty, -1)$$