

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

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

$$\Rightarrow b = -6$$

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

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

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

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

$$[n] + [-n] \Rightarrow \text{مهره}, m \in \mathbb{Z}, 4 - n^2 \geq 0$$

$$\Rightarrow n^2 \leq 4$$

$$\Rightarrow -2 \leq n \leq 2$$

$$\text{ج) } \frac{(n+1)(n-1)(n^2)(n-3)}{(n-1)(n^2+n+1)} \Rightarrow \frac{-1 \quad 0^* \quad 1^* \quad 3}{+ \quad - \quad - \quad -}$$

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

1) $|n-2| - 3 \geq 0 \Rightarrow n-2 \geq 3 \Rightarrow n \geq 5$
 $2 - n \geq 3 \Rightarrow n \leq -1 \Rightarrow D_f = (-\infty, -1] \cup [5, +\infty)$

ج) $4 \geq |2-n| \Rightarrow n-2 \leq 4 \Rightarrow n \leq 6$
 $2-n \leq 4 \Rightarrow n \geq -2 \Rightarrow D_f = [-2, 6]$

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

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

$$1) \quad |n| \leq 1 \Rightarrow \begin{matrix} n^2 \leq 1 \\ -n^2 \leq 1 \end{matrix} \Rightarrow \begin{matrix} n \leq 1 \\ -1 \leq n \end{matrix} \Rightarrow P_f = [-1, 1]$$

$$2) \quad 3 - |n-5| \geq 1 \Rightarrow |n-5| \leq 2 \Rightarrow \begin{matrix} n-5 \leq 2 \\ 5-n \leq 2 \end{matrix} \Rightarrow \begin{matrix} n \leq 7 \\ n \geq 3 \end{matrix} \Rightarrow P_f = [3, 7]$$

$$3) \quad \cos n \neq 0 \Rightarrow n \neq K\pi + \pi/2 \Rightarrow P_f = \mathbb{R} - \{K\pi + \pi/2 \mid K \in \mathbb{Z}\}$$

$$4) \quad 2 \cos n \neq 1 \Rightarrow n \neq 2K\pi \pm \pi/3 \Rightarrow P_f = \mathbb{R} - \{2K\pi \pm \pi/3 \mid K \in \mathbb{Z}\}$$

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

$$\Rightarrow n^2 - 2n + 24 = 0 \Rightarrow (n-6)(n-4) = 0 \Rightarrow \begin{matrix} n=6 \\ n=4 \end{matrix} \Rightarrow P_f = \mathbb{R} - \{2, -4/3\}$$

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

$$\Rightarrow n^2 - 2n + 24 > 0 \Rightarrow (n-6)(n-4) > 0 \Rightarrow \begin{matrix} n < 4 \\ n > 6 \end{matrix} \Rightarrow P_f = (-\infty, 4) \cup (6, +\infty)$$

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

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

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

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

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

$$\Rightarrow n+1 < 0 \Rightarrow n < -1, n \neq -1 \Rightarrow P_f = (-\infty, -1)$$