

الف) $D_f \subset \mathbb{R} - \{0, 1, 2\}$

ب) $D_f \subset \mathbb{R} - \{-1, \frac{1}{2}, 3\}$

-2

الف) $n - \sqrt{n-2} \neq 0 \Rightarrow n \neq \sqrt{n-2} \Rightarrow n^2 \neq n-2$
 $\Rightarrow n^2 + 2 - n \neq 0 \Rightarrow (n+2)(n-1) \neq 0 \Rightarrow D_f \subset \mathbb{R} - \{-2, 1\}$

ب) $n \neq \sqrt{n-2} \Rightarrow n^2 \neq n-2 \Rightarrow n^2 - n + 2 \neq 0$
 $(n-2)(n-1) \neq 0 \Rightarrow D_f \subset \mathbb{R} - \{1, 2\}$

-3

الف) $\cos n \neq 1$
 $\cos n \neq 1$

$D_f \subset \mathbb{R} - \{2k\pi + \frac{\pi}{2}, 2k\pi - \frac{\pi}{2}\}$

ب) $\sin n \neq -1$
 $\sin n \neq -1$

$D_f \subset \mathbb{R} - \{2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{\pi}{2}\}$

ج) $\cot n \neq 1$

$D_f \subset \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{2}\}$

د) $\sin^2 n \neq 1$

$\sin^2 n \neq \frac{1}{2}$

$\sin n \neq \pm \frac{\sqrt{2}}{2}$

$D_f \subset \mathbb{R} - \{k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4}\}$

$$1) (n-2)(n-3) > 0 \Rightarrow \frac{1}{+|-|-} \Rightarrow (-\infty, 2) \cup (3, +\infty) \quad -2$$

$$2) (n-1)(n-4) < 0 \Rightarrow \frac{1}{-|+|-} \Rightarrow (1, 4) \quad -3$$

$$3) (n+1)(n+5) \geq 0 \Rightarrow \frac{1}{+|-|-} \Rightarrow [-5, -1] \cup [1, +\infty) \quad -4$$

$$4) (n-1)(n-6) \leq 0 \Rightarrow \frac{1}{-|+|-} \Rightarrow [1, 6] \quad -5$$

$$5) \frac{1}{+|-|-} \Rightarrow (-\infty, 1) \cup (2, +\infty) \quad -6$$

$$6) \frac{(n-1)(n+1)}{(n-1)(n-5)} \Rightarrow \frac{1}{-|+|-} \Rightarrow (-\infty, -1] \cup [5, +\infty) \quad -7$$

$$7) \frac{(n-1)(n-3)}{(n-1)(n^2+n+1)} \Rightarrow \frac{1}{+|-|-} \Rightarrow [3, +\infty) \quad -8$$

$$8) \sqrt[3]{\frac{(n-1)(n-3)}{(n-1)(n+1)}} \quad D_f = \mathbb{R} - \{-1, 1\}$$

$$9) n^2 - 3n > 0 \Rightarrow n(n-3) > 0 \Rightarrow \frac{1}{+|-|-} \Rightarrow (-\infty, 0) \cup (3, +\infty) \quad -9$$

$$10) 12n^2 > 0 \Rightarrow \frac{1}{+|+|+} \Rightarrow n \neq 0$$

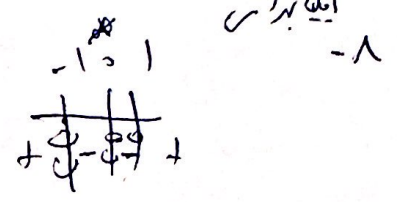
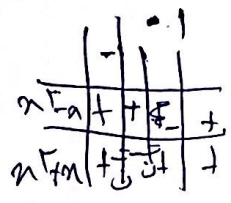
$$11) |n| - 2 > 0 \Rightarrow |n| > 2 \Rightarrow n > \pm 2 \Rightarrow (2, +\infty) \cup (-\infty, -2) - \{-2, 2\}$$

$$12) \frac{(n-3)(n-5)}{n-3} > 0$$

$$\begin{cases} 1. -n > 0 \\ 2. -n \neq 1 \end{cases} \Rightarrow (1, +\infty) - \{1\}$$

$$13) \left. \begin{aligned} (n-4)(n-6) &\geq 0 \\ 4 - n^2 &\geq 0 \\ n &> 0 \\ n &\neq 1 \end{aligned} \right\} \Rightarrow (0, 4] - \{1\}$$

$$\frac{n^2 - n}{n^2 + n} = \frac{n(n-1)}{n(n+1)}$$



$$D_F = (-\infty, -1) \cup (1, \infty) \cup \{-1\} \quad -9$$

