

الف) $\begin{cases} 2-x > 0 \rightarrow x < 2 \text{ (1)} \\ 4 - \sqrt{2-x} > 0 \rightarrow 2-x \leq 14 \rightarrow -14 \leq x \leq 2 \text{ (2)} \end{cases} \Rightarrow D_f = [-14, 2]$

ب) $\begin{cases} x-2 > 0 \rightarrow x > 2 \text{ (1)} \\ 3 - \sqrt{x-2} > 0 \rightarrow \sqrt{x-2} \leq 3 \rightarrow x-2 \leq 9 \rightarrow x \leq 11 \text{ (2)} \end{cases} \Rightarrow D_f = [2, 11]$

الف) $4 - 2x^2 > 0 \rightarrow 4 > 2x^2 \rightarrow x^2 < 2 \rightarrow -\sqrt{2} < x < \sqrt{2} \rightarrow D_f = [-\sqrt{2}, \sqrt{2}]$

ب) $3|x| - 9 > 0 \Rightarrow 3|x| > 9 \Rightarrow |x| > 3 \Rightarrow x > 3 \text{ or } x < -3$
 $D_f = (-\infty, -3] \cup [3, +\infty)$

الف) $|x| - 3 \neq 0 \rightarrow |x| \neq 3 \rightarrow D_f = \mathbb{R} - \{\pm 3\}$

ب) $\sqrt{x} - 3 \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9$
 $D_f = [0, +\infty) - \{9\}$

الف) $\begin{cases} 3 - |x| > 0 \Rightarrow |x| < 3 \Rightarrow -3 < x < 3 \\ |x+2| \neq 0 \Rightarrow x \neq -2 \end{cases} \Rightarrow D_f = [-3, 3] - \{-2\}$

ب) $\frac{\sqrt{(2-x)(2+x)}}{|x|-1} \geq 0 \Rightarrow \begin{matrix} (2-x) > 0 \\ (2+x) > 0 \end{matrix} \Rightarrow \begin{matrix} x < 2 \\ x > -2 \end{matrix} \Rightarrow -2 < x < 2$
 $D_f = [-2, 2] - \{x \mid |x|-1 \neq 0\} = [-2, 2] - \{-1, 1\}$

الف) $x + |x| > 0 \rightarrow |x| > -x \xrightarrow{D_f} (0, +\infty)$

ب) $x|x| > 0 \xrightarrow{D_f} (0, +\infty)$

$$\text{الف) } 2 - [n] \geq 0 \rightarrow [n] < 2 \quad n < 3 \rightarrow D_f = (-\infty, 3)$$

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$$\text{ب) } 2 - [n] > 0 \quad [n] < 2 \quad n < 3 \rightarrow D_f = (-\infty, 2)$$

$$\text{الف) } n[n] > 0 \rightarrow D_f = \mathbb{R} - \{0\}$$

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$$\text{ب) } -n[n] > 0 \rightarrow n[n] < 0 \rightarrow [n], n \text{ اشارة متعاكسة} \rightarrow D_f = \emptyset$$

$$\text{الف) } [n + \frac{1}{p} - 1] + [n + \frac{1}{p}] \geq 0 \quad [n + \frac{1}{p}] - 1 + [n + \frac{1}{p}] \geq 0$$

$$2[n + \frac{1}{p}] \geq 1 \rightarrow [n + \frac{1}{p}] \geq \frac{1}{2} \rightarrow n + \frac{1}{p} \geq 1 \rightarrow n \geq \frac{1}{p} \rightarrow D_f = [\frac{1}{p}, +\infty)$$

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$$\text{ب) } \sqrt{[n - \frac{1}{p}] + [-(n - \frac{1}{p})]} \rightarrow \begin{cases} [a] + [-a] = 0 & a \in \mathbb{Z} \\ [a] + [-a] = -1 & a \notin \mathbb{Z} \end{cases} \Rightarrow n - \frac{1}{p} \in \mathbb{Z}$$

$$D_f = \{n \mid n = k + \frac{1}{p}, k \in \mathbb{Z}\}$$

$$\text{الف) } 2 \sin^2 n - 1 \neq 0 \quad 2 \sin^2 n \neq 1 \quad \sin^2 n \neq \frac{1}{2} \xrightarrow{\text{مربع الطرفين}} D_f = \mathbb{R}$$

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

$$\tan n \neq -1 \rightarrow k\pi - \frac{\pi}{4} \quad D_f = \mathbb{R} - \{k\pi, k\pi - \frac{\pi}{4}\}$$

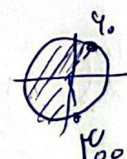
$$\text{الف) } 2 \sin n - 1 \geq 0 \rightarrow 2 \sin n \geq 1 \rightarrow \sin n \geq \frac{1}{2}$$



$$D_f = [2k\pi + \frac{\pi}{6}, 2k\pi + \pi - \frac{\pi}{6}]$$

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$$\text{ب) } 1 - 2 \cos n > 0 \rightarrow 2 \cos n < 1 \rightarrow \cos n < \frac{1}{2}$$



$$D_f = [2k\pi + \frac{2\pi}{3}, 2k\pi + \pi - \frac{2\pi}{3}]$$