

الف) $4 - \sqrt{2-n} \geq 0 \rightarrow 4 \geq \sqrt{2-n} \rightarrow 16 \geq |2-n| \Rightarrow n = 18, 17, \dots, 14$
 $\Rightarrow D_f = [18, -14]$

ب) $3 - \sqrt{n-2} \geq 0 \Rightarrow 3 \geq \sqrt{n-2} \Rightarrow 9 \geq |n-2| \Rightarrow 9 \geq n-2 \Rightarrow -9 \leq n-2 \Rightarrow -7 \leq n$
 $D_f = [11, -7]$

الف) $4 - 2x^2 \geq 0 \rightarrow 4 \geq 2x^2 \rightarrow 2 \geq x^2 \Rightarrow \sqrt{2} \geq |x| \Rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$
 $D_f = [\sqrt{2}, -\sqrt{2}]$

ب) $3|n|-9 \geq 0 \rightarrow 3|n| \geq 9 \rightarrow |n| \geq 3 \rightarrow$
 $D_f = [3, +\infty) \cup (-\infty, -3]$

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

ب) $\begin{cases} \sqrt{n}-3 \neq 0 \rightarrow \sqrt{n} \neq 3 \Rightarrow |n| \neq 9 \\ n \geq 0 \rightarrow n \in \mathbb{R}^+ \cup \{0\} \end{cases}$
 $I \cup II \xrightarrow{D_f} [0, 9) \cup (9, +\infty)$

الف) $\begin{cases} 3-|n| \geq 0 \Rightarrow 3 \geq |n| \Rightarrow [-3, 3] \text{ I} \\ |n|+2 \neq 0 \Rightarrow |n| \neq -2 \Rightarrow \mathbb{R} \text{ II} \end{cases}$
 هوایه برقرار است

$I \cap II \Rightarrow D_f = [-3, 3]$

ب) $\begin{cases} 4-x^2 \geq 0 \rightarrow 4 \geq x^2 \Rightarrow 2 \geq |x| \rightarrow 2 \geq x \geq -2 \rightarrow [-2, 2] \text{ I} \\ |x|-1 \neq 0 \Rightarrow |x| \neq 1 \Rightarrow \begin{cases} x \neq 1 \\ x \neq -1 \end{cases} \text{ II} \end{cases}$
 $I \cap II \Rightarrow [-2, 2]$
 الف) $x+|x| > 0 \rightarrow [1, +\infty)$

ب) $x|x| > 0 \Rightarrow D_f = \mathbb{R}^+$

$$x - [x] > 0 \Rightarrow x > [x] \Rightarrow D_f = (-\infty, 1) \quad (الف)$$

$$x - [x] > 0 \Rightarrow x > [x] \Rightarrow D_f = (-\infty, 1) \quad (ب)$$

$$x[x] \neq 0 \Rightarrow \begin{cases} x=0 \text{ I} \\ x=(1,0) \text{ II} \end{cases} \Rightarrow (1,0] \quad (الف)$$

$$D_f = (-\infty, 0) \cup [1, +\infty)$$

$$-x[x] > 0 \Rightarrow \text{مركب صغرى شترى با} \Rightarrow \emptyset \quad (ب)$$

$$[x - \frac{1}{x}] + [x + \frac{1}{x}] \geq 0 \quad (الف)$$

$$D_f = (0, +\infty)$$

$$[x - \frac{1}{x}] + [-x + \frac{1}{x}] \geq 0 \Rightarrow D_f = (0, +\infty) - \mathbb{Z} \quad (ب)$$

$$x \sin^2 x - 1 \neq 0 \Rightarrow x \sin^2 x \neq 1 \Rightarrow \sin^2 x \neq \frac{1}{x} \Rightarrow D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2} \right\} \quad (الف)$$

$$|\tan x + 1| \neq 0 \Rightarrow \tan x \neq -1 \Rightarrow D_f = \mathbb{R} - \left\{ 2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{7\pi}{4} \right\} \quad (ب)$$

$$x \sin x - 1 \geq 0 \Rightarrow x \sin x \geq 1 \Rightarrow \sin x \geq \frac{1}{x} \quad (الف)$$

$$D_f = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right]$$

$$1 - x \cos x \geq 0 \Rightarrow 1 \geq x \cos x \Rightarrow \frac{1}{x} \geq \cos x \Rightarrow D_f = \left[2k\pi + \frac{\pi}{3}, 2k\pi - \frac{2\pi}{3} \right] \quad (ب)$$