

الف) $2-x \geq 0 \Rightarrow x \leq 2$ $4-\sqrt{2-x} > 0 \Rightarrow \sqrt{2-x} \leq 2 \Rightarrow 2 \geq x \geq -14$ ب) $3-\sqrt{x-2} \geq 0 \Rightarrow \sqrt{x-2} \leq 3 \Rightarrow 11 \geq x \geq 2$ $D_f = [2, 11]$	۱
الف) $4-2x^2 \geq 0 \Rightarrow 2x^2 \leq 4 \Rightarrow x^2 \leq 2 \Rightarrow x \leq \sqrt{2}$ $D_f = (-\infty, \sqrt{2}]$ ب) $3 x -9 \geq 0 \Rightarrow 3 x \geq 9 \Rightarrow x \geq 3$ $D_f = (-\infty, -3] \cup [3, \infty)$	۲
الف) $ x -3 \neq 0 \Rightarrow x \neq 3, x \neq -3$ $D_f = \mathbb{R} - \{3, -3\}$ ب) $x \geq 0$ و $\sqrt{x}-3 \geq 0 \Rightarrow \sqrt{x} \geq 3 \Rightarrow x \geq 9$ $D_f = [9, +\infty)$	۳
الف) $3- x \geq 0 \Rightarrow x \leq 3 \Rightarrow D_f = [-3, 3] - \{2, -2\}$ $ x +2 \neq 0 \Rightarrow x \neq 2, x \neq -2$ ب) $4-x^2 \geq 0 \Rightarrow x^2 \leq 4 \Rightarrow x \leq 2$ $D_f = (-\infty, 2] - \{1, -1\}$ $ x -1 \neq 0 \Rightarrow x \neq 1, x \neq -1$	۴
الف) $x+ x > 0 \Rightarrow x > -x \Rightarrow x > 0$ $D_f = \mathbb{R}^+$ ب) $x x > 0 \Rightarrow D_f = \mathbb{R}^+$	۵

الف) $2 - [x] \geq 0 \quad 2 \geq [x] \Rightarrow x < 3$

$D_f = (-\infty, 3)$

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ب) $2 - [x] > 0 \quad 2 > [x] \Rightarrow x < 2$

$D_f = (-\infty, 2)$

الف) $x[x] \neq 0 \Rightarrow x \neq 0, [x] \neq 0$

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

ب) $-x[x] > 0 \Rightarrow$ این عبارت هوار کوپلتر یا مساوی
 ۰ است پس دامنه تهی است.
 $D_f = \emptyset$

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الف) $\left[x - \frac{1}{x}\right] + \left[x - \frac{1}{x} + 1\right] \geq 0 \Rightarrow 2\left[x - \frac{1}{x}\right] + 1 \geq 0$

$\left[x - \frac{1}{x}\right] \geq \frac{1}{2} \Rightarrow x - \frac{1}{x} \geq 1 \Rightarrow x \geq 1 + \frac{1}{x} \quad D_f = \left[1 + \frac{1}{x}, \infty\right)$

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ب) $\left[x - \frac{1}{x}\right] + \left[-\left(x - \frac{1}{x}\right)\right] \geq 0 \Rightarrow \begin{cases} x \in \mathbb{Z} & [a] + [-a] = 0 \\ x \notin \mathbb{Z} & [a] + [-a] = -1 \end{cases}$
 $D_f = \left\{x + \frac{1}{x} \mid x \in \mathbb{Z}\right\}$

الف) $2 \sin^2 x - 1 \neq 0 \quad \sin^2 x \neq \frac{1}{2} \quad \sin x \neq \pm \frac{1}{\sqrt{2}}$

$\sin x \neq \pm \frac{\sqrt{2}}{2} \quad D_f = \mathbb{R} - \left\{\frac{(2k-1)\pi}{4}\right\}$

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ب) $\tan x + 1 \neq 0 \Rightarrow \tan x \neq -1$

$D_f = \mathbb{R} - \left\{k\pi + \frac{3\pi}{4}, k\pi + \frac{7\pi}{4}\right\}$

الف) $2 \sin x - 1 \geq 0 \Rightarrow \sin x \geq \frac{1}{2}$

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

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ب) $1 - 2 \cos x \geq 0 \quad \cos x \leq \frac{1}{2}$

$D_f = \left[k\pi + \frac{\pi}{3}, k\pi + \frac{5\pi}{3}\right]$