

الف) $2 - x \geq 0 \Rightarrow x \leq 2$ $x - \sqrt{2-x} \geq 0 \Rightarrow x \geq -1$ $D_f = [-1, 2]$ ب) $x - 2 \geq 0 \Rightarrow x \geq 2$ $3 - \sqrt{x-2} \geq 0 \Rightarrow \sqrt{x-2} \leq 3 \Rightarrow x-2 \leq 9 \Rightarrow x \leq 11$ $D_f = [2, 11]$	۱
الف) $4 - 2x^2 \geq 0 \Rightarrow 4 \geq 2x^2 \Rightarrow 2 \geq x^2 \Rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$ ب) $3 x - 9 \geq 0 \Rightarrow x \geq 3 \Rightarrow x \geq 3$ $D_f = (-\infty, -3] \cup [3, +\infty)$	۲
الف) $x - 5 \neq 0 \Rightarrow x \neq 5 \Rightarrow x \neq \pm 5$ $D_f = \mathbb{R} - \{+5, -5\}$ ب) $x \geq 0, \sqrt{x-5} \neq 0 \Rightarrow \sqrt{x} \neq 5 \Rightarrow x \neq 25$ $D_f = [0, +\infty) - \{25\}$	۳
الف) $3 - x \geq 0 \Rightarrow 3 \geq x \Rightarrow -3 \leq x \leq 3$ $x + 2 \neq 0 \Rightarrow x \neq -2$ $D_f = [-3, 3]$ ب) $4 - x^2 \geq 0 \Rightarrow 4 \geq x^2 \Rightarrow -2 \leq x \leq 2$ $x - 1 \neq 0 \Rightarrow x \neq 1$ $D_f = [-2, 2] - \{\pm 1\}$	۴
الف) $x - x > 0 \Rightarrow x \geq x \Rightarrow D_f = \mathbb{R}^+$ ب) $x > 0 \Rightarrow D_f = \mathbb{R}^+$	۵

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

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

$$a) x[x] > 0 \quad D_f = \mathbb{R} - \{0\}$$

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$$b) -x[x] > 0 \quad D_f = \emptyset$$

$$a) [x - \frac{1}{e}] + [x + \frac{1}{e}] \geq 0 \Rightarrow [x + \frac{1}{e}] - 1 + [x + \frac{1}{e}] \geq 0 \\ \Rightarrow 2[x + \frac{1}{e}] \geq 1 \Rightarrow [x + \frac{1}{e}] \geq \frac{1}{2} \Rightarrow x + \frac{1}{e} \geq 1 \Rightarrow x \geq \frac{1}{e} \Rightarrow D_f = [\frac{1}{e}, +\infty)$$

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$$b) [x - \frac{1}{e}] + [-x + \frac{1}{e}] \geq 0 \Rightarrow [x - \frac{1}{e}] + [x + \frac{1}{e}] \geq 0 \Rightarrow D_f = \mathbb{Z}$$

$$a) 1 - \sin^2 x > 0 \Rightarrow \sin x > \frac{1}{\sqrt{e}} \quad D_f = (k\pi + \frac{\pi}{e}, k\pi - \frac{\pi}{e})$$

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$$b) \frac{\frac{\cos x}{\sin x} + 1}{\frac{\sin x}{\cos x} + 1} \Rightarrow \sin x \neq 0 \quad D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{e}, k\pi - \frac{\pi}{e}\}$$

$$\frac{\sin x}{\cos x} + 1 \neq 0 \Rightarrow \frac{\sin x}{\cos x} \neq -1 \Rightarrow \sin x \neq -\cos x$$

$$a) 1 - \sin x \geq 0 \Rightarrow \sin x \leq \frac{1}{\sqrt{e}} \quad D_f = [k\pi + \frac{\pi}{e}, k\pi + \frac{0\pi}{e}]$$

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$$b) 1 - 2\cos x \geq 0 \Rightarrow \cos x \leq \frac{1}{2} \quad D_f = [k\pi - \frac{\pi}{e}, k\pi + \frac{\pi}{e}]$$