

الف) $D_f = (-\infty, 1)$

$1 - [x] \geq 0 \quad [x] \leq 1 \quad x < 1$

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

الف) $D_f = \mathbb{R} - [0, 1] \quad D_f = (-\infty, 0) \cup [1, +\infty)$

$x[x] > 0$

ب) $D_f = \emptyset$

$-x[x] \neq 0 \Rightarrow x[x] \neq 0 \quad -x[x] > 0 \quad x[x] < 0$

الف) $[x - \frac{1}{p}] + [x + \frac{1}{p}] \geq 0 \quad D_f = [\frac{1}{p}, +\infty)$

$[x + \frac{1}{p} - 1] + [x + \frac{1}{p}] \geq 0$

$1 - [x + \frac{1}{p}] \geq 0$

$[x + \frac{1}{p}] - 1 + [x + \frac{1}{p}] \geq 0$

$[x + \frac{1}{p}] \geq \frac{1}{p}$

$x + \frac{1}{p} \geq 1 \quad x \geq 1 - \frac{1}{p} \quad x \geq \frac{1}{p}$

ب) $x - \frac{1}{p} \in \mathbb{Z}$

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

الف) $D_f = \mathbb{R} - \{\frac{\pi}{2} + \frac{k\pi}{p} \mid k \in \mathbb{Z}\}$

$\sin x \neq \pm \frac{1}{p}$

ب) $D_f = \mathbb{R} - \{x \mid x = k\pi + \frac{\pi}{p}\}$

الف) $D_f = \{\frac{\pi}{4} + 2k\pi, \frac{\pi}{4} - 2k\pi\}$

$\sin x \geq \frac{1}{p}$

$1 - \sin x \geq 0$

$\sin x \geq \frac{1}{p}$

ب) $D_f = \{\frac{\pi}{p} + 2k\pi, \frac{\pi}{p} - 2k\pi\}$

$\cos x \leq \frac{1}{p}$

الف) $\sqrt{2-x} \geq 0 \quad 2-x \geq 0 \quad x \leq 2 \quad D_f = \{2, 1\}$
 $4. \sqrt{2-x} \geq 0 \quad -\sqrt{2-x} \geq -2 \quad \sqrt{2-x} \leq 2 \quad 2-x \leq 4 \quad -x \leq 4-2 \quad x \geq 1$

ب) $x-2 \geq 0 \quad x \geq 2 \quad 3. \sqrt{x-2} \geq 0 \quad -\sqrt{x-2} \geq -3 \quad x-2 \leq 9 \quad x \leq 11 \quad D_f = \{2, 11\}$

الف) $4 \geq 2x^2$
 $2 \geq x^2$
 $\sqrt{2} \geq |x|$
 $-\sqrt{2} \leq x \leq \sqrt{2} \quad D_f = \{-\sqrt{2}, \sqrt{2}\}$

ب) $3|x| \geq 9$
 $|x| \geq 3 \rightarrow |x| \geq 3 \rightarrow \begin{matrix} x \geq 3 \\ x \leq -3 \end{matrix} \quad D_f = (-\infty, -3] \cup [3, +\infty)$

الف) $D_f = \mathbb{R} - \{3\}$

ب) $D_f = \mathbb{R} - \{9\}$

الف) $D_f = \mathbb{R}$

ب) $D_f = \mathbb{R} - \{\pm 1\}$

الف) $x+|x| > 0 \rightarrow |x| > -x \quad D_f = \mathbb{R}^+$

ب) $x|x| > 0 \rightarrow (0, +\infty)$