

الف) $D_f = (-\infty, \infty)$

$\chi[n] \geq 0, [n] \leq \infty, \chi < \infty$

ب) $\chi[n] > 0, D_f = (-\infty, \infty)$
 $[n] < \infty, \chi < \infty$

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

$\chi[n] > 0$

ب) $D_f = \emptyset$

$-\chi[n] \neq 0 \Rightarrow \chi[n] \neq 0, -\chi[n] > 0, \chi[n] < 0$

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

$[\chi + \frac{1}{p} - 1] + [\chi + \frac{1}{p}] \geq 0$
 $[\chi + \frac{1}{p}] - 1 + [\chi + \frac{1}{p}] \geq 0$
 $\chi - \frac{1}{p} \in \mathbb{Z}$
 $D_f = \{\chi \mid \chi = k + \frac{1}{p}, k \in \mathbb{Z}\}$
 $\chi[\chi + \frac{1}{p}] \geq 1$
 $[\chi + \frac{1}{p}] \geq \frac{1}{\chi}$
 $\chi + \frac{1}{p} \geq 1$
 $\chi \geq 1 - \frac{1}{p}$
 $\chi \geq \frac{1}{p}$

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

$\sin \chi \neq \pm \frac{1}{p} \rightarrow D_f = \mathbb{R} - \{\frac{k\pi}{p} + \frac{\pi}{2}\}$

ب) $D_f = \mathbb{R} - \{r k \pi + \frac{\pi}{p}\}$
 $\tan, \cot \rightarrow \text{معرّف} \rightarrow \chi \neq \frac{k\pi}{p}$
 $\tan \neq -1 \rightarrow \chi \neq k\pi - \frac{\pi}{2}$

الف) $D_f = \{\frac{\pi}{4} + r k \pi, \frac{\pi}{4} - r k \pi\}$
 $D_f = [\frac{\pi}{4} + r k \pi, \frac{\pi}{4} + r k \pi]$

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

$\chi \sin \chi = 1 \geq 0$

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

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

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

الف) $\sqrt{2-x} \geq 0 \quad 2-x \geq 0 \quad x \leq 2 \quad \underline{15/25} \quad D_f = \{2, 1\} \quad D_f = [-14, 2]$

ب. $\sqrt{2-x} \geq 0 \quad -\sqrt{2-x} \geq -2 \quad \sqrt{2-x} \leq 2 \quad 2-x \leq 14 \quad -x \leq 14-2 \quad x \geq 12$
 $x \geq -12$

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

الف) $4 \geq 2x^2$

$2 \geq x^2$

$\sqrt{2} \geq |x| \quad -\sqrt{2} \leq x \leq \sqrt{2} \quad D_f = [-\sqrt{2}, \sqrt{2}]$

ب) $3|a| \geq 9$

$|a| \geq 3$

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

الف) $D_f = \mathbb{R} - \{ \pm 3 \}$

ب) $D_f = \mathbb{R} - \{9\} \quad \sqrt{x} \rightarrow x \geq 0 \quad D_f = [0, +\infty) - \{9\}$

الف) $D_f = \mathbb{R} \quad \times \quad |x| \leq c \quad -c \leq x \leq c \quad D_f = [-c, c]$

ب) $D_f = \mathbb{R} - \{\pm 1\} \quad \times \quad \begin{matrix} x^2 \leq 2 & -2 \leq x \leq 2 \\ |x| \neq 1 & x \neq \pm 1 \end{matrix} \quad D_f = [-2, 2] - \{\pm 1\}$

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

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