

11.17.5

1-

الف $\sqrt{2-x} < 4$ $x < 2$ $[-14, 1]$
 $2-x < 14$ $-14 < x$ $(-14, 2)$
 $-14 < x < 2$ $(-14, 2)$ $\checkmark$

ب $\sqrt{x-2} < 2$ $x > 2$ $[2, 11]$
 $x-2 < 4$ $x < 6$ $(2, 6)$
 $x-2 < 9$ $x < 11$ $(2, 11)$

2-

الف $2(2-x)$ $\frac{-\sqrt{x}}{-1} + \frac{\sqrt{x}}{1}$ $-\sqrt{x} < x < \sqrt{x}$ $[\sqrt{x}, \sqrt{x}]$

ب $9 < 4|x|$ $\frac{-4}{+} - \frac{4}{-} +$ $(-\infty, -2] \cup [2, \infty)$
 $9 < 4|x|$ $|x| > \frac{9}{4}$ $x < -\frac{9}{4}$ $x > \frac{9}{4}$

3-

الف $\sqrt{\frac{|x|+1}{|x|-2}}$ $|x| \neq 2$ $D: \mathbb{R} - \{2, -2\}$
 $|x| > 2$ $x \neq 2, -2$ $\checkmark$

ب $\sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-2}}$ $0 \leq x$ $D_f: [0, \infty) - \{4\}$
 $\sqrt{x} + 2$ $x \neq 4$

4-

الف $|x| < 3$ $|x| \neq -2$ $[-3, 3]$
 $-3 < x < 3$ $\checkmark$

ب $(1-x)(1+x) > 0$ $\frac{-2}{-1} + \frac{1}{1}$ $[-2, 1] - \{1, -1\}$
 $|x| \neq 1$ $x \neq 1, -1$

5-

الف $x + |x| > 0$ $D_f: \mathbb{R}^+$ $(0, \infty)$
 $x|x| > 0$ $D_f: \mathbb{R}^+$ $(0, +\infty)$ $\checkmark$

6-

الف $[x] < 2$ $[x] < 2$ $x < 2$ $(-\infty, 2)$
 $x < 2$ $\checkmark$

الف) $\frac{1}{x[n]} \quad x[n] \neq 0 \quad D_f = \mathbb{R} - \{0\} \quad -V$

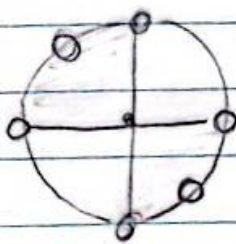
ب) $\frac{1}{\sqrt{x[n]}} \quad D_f \text{ غير } \emptyset \quad \textcircled{v} \checkmark$

الف) $\sqrt{\left[n - \frac{1}{f}\right] + \left[n + \frac{1}{f}\right]} \quad n \geq \frac{1}{f} \quad D_f = \left[\frac{1}{f}, +\infty\right)$
 $\left\lceil \left[n + \frac{1}{f}\right] - 1 \right\rceil \geq 0 \quad \left\lceil \left[n + \frac{1}{f}\right] \right\rceil \geq \frac{1}{f} \quad n + \frac{1}{f} \geq 1 \quad n \in \mathbb{Z} \rightarrow 0$
 $\left\lceil \left[n + \frac{1}{f}\right] \right\rceil < \left\lceil -n \right\rceil \quad n \neq \mathbb{Z} \rightarrow 1$
 ب) $\sqrt{\left[n - \frac{1}{f}\right] + \left[-n + \frac{1}{f}\right]} \quad \left[n - \frac{1}{f}\right] + \left[-\left(n - \frac{1}{f}\right)\right] \in \mathbb{Z}$

$D_f(n | n \leq k + \frac{1}{f}, k \in \mathbb{Z}) \quad \checkmark \quad n - \frac{1}{f} \in \mathbb{Z}$

الف) $\sin^2 x \neq 1 \quad D_f = \mathbb{R}$
 $\sin^2 x \neq 1$
 $\sin x \neq \pm 1$
 $R = \{k\pi \pm \frac{\pi}{2}\}$

ب) $\cot = \frac{\cos}{\sin} \quad \sin x \neq 0 \quad \textcircled{1} \quad \tan = \frac{\sin}{\cos} \quad \cos \neq 0$
 $\tan \neq 1$



$D_f = \mathbb{R} - \left\{k\pi, k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2}\right\}$

الف) $|\sin x| \geq 1 \rightarrow \sin x \geq \frac{1}{f} \quad D_f = \left[k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4}\right]$



$(1, \sqrt{a})$

ب) $1 \geq |\cos x| \rightarrow \frac{1}{f} \geq \cos x \quad D_f = \left[k\pi + \frac{\pi}{4}, k\pi + \frac{7\pi}{4}\right]$

