

الف) $y = \sqrt{4-x}$ $\Rightarrow 4-x \geq 0 \Rightarrow x \leq 4$, $\sqrt{4-x} \leq 4 \Rightarrow 4-x \leq 16 \Rightarrow x \geq -12$
 $\Rightarrow D_f = [-12, 4]$ ✓

ب) $y = \sqrt{3-x-2}$ $\Rightarrow x-2 \geq 0 \Rightarrow x \geq 2$, $\sqrt{x-2} \leq 3 \Rightarrow x-2 \leq 9 \Rightarrow x \leq 11$ (۲)
 $\Rightarrow D_f = [2, 11]$ ✓

الف) $y = \sqrt{4-x^2}$ $\Rightarrow x^2 \leq 4 \Rightarrow x \leq 2$ و $x \geq -2 \Rightarrow x \leq \sqrt{2}$ و $x \geq -\sqrt{2}$ $\Rightarrow D_f = [-\sqrt{2}, \sqrt{2}]$
 $\hookrightarrow -\sqrt{2} \leq x \leq \sqrt{2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$

ب) $y = \sqrt{3|x|-9}$ $\Rightarrow 3|x| \geq 9 \Rightarrow |x| \geq 3 \Rightarrow x \leq -3$ و $x \geq 3$
 $\Rightarrow D_f = (-\infty, -3] \cup [3, \infty)$ ✓ (۱۵)

الف) $y = \sqrt[3]{\frac{|x|+1}{|x|-2}}$ $\Rightarrow |x| \neq 2 \Rightarrow x \neq 2, -2 \Rightarrow D_f = \mathbb{R} - \{2, -2\}$ ✓ (۱, ۱۷۵)

ب) $y = \sqrt[3]{\frac{\sqrt{x}+1}{\sqrt{x}-1}}$ $\Rightarrow \sqrt{x} \neq 1 \Rightarrow x \neq 1 \Rightarrow D_f = \mathbb{R} - \{1\}$
 $\hookrightarrow \mathbb{R} - \{1\}$ ✓

الف) $y = \frac{\sqrt{3-|x|}}{|x|+2}$ $\Rightarrow 3 \geq |x| \Rightarrow -3 \leq x \leq 3 \Rightarrow D_f = [-3, 3]$ ✓ (۱, ۱۷۵)

ب) $y = \frac{\sqrt{4-x^2}}{|x|-1}$ $\Rightarrow \begin{cases} |x| \neq 1 \Rightarrow x \neq \pm 1 \\ x^2 \leq 4 \Rightarrow -2 \leq x \leq 2 \end{cases} \Rightarrow D_f = [-2, 2] - \{\pm 1\}$
 $D_f = [-2, 2] - \{\pm 1\}$ ✓

الف) $y = \frac{x+1}{\sqrt{x+|x|}}$ $\Rightarrow x+|x| > 0 \Rightarrow x > 0 \Rightarrow D_f = (0, \infty)$ ✓

ب) $y = \frac{1}{\sqrt{x|x|}}$ $\Rightarrow x|x| > 0 \Rightarrow x > 0 \Rightarrow D_f = (0, \infty)$ ✓ (۲)

