

الف) $y = \sqrt{4 - \sqrt{2-x}} \Rightarrow 2-x \geq 0 \Rightarrow x \leq 2, \sqrt{2-x} \leq 2 \Rightarrow 2-x \leq 4 \Rightarrow x \geq -14$
 $\Rightarrow D_f = [-14, 2]$

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

الف) $y = \sqrt{4 - 2x^2} \Rightarrow 2x^2 \leq 4 \Rightarrow x^2 \leq 2 \Rightarrow x \leq \sqrt{2} \Rightarrow D_f = (-\infty, \sqrt{2}]$

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

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

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

الف) $y = \frac{\sqrt{3-|x|}}{|x|+2}$ $\Rightarrow 3 \geq |x| \Rightarrow -3 \leq x \leq 3 \Rightarrow D_f = [-3, 3]$
 عبارت در صورت کسری همواره مثبت است

ب) $y = \frac{\sqrt{4-x^2}}{|x|-1} \Rightarrow \left. \begin{array}{l} |x| \neq 1 \Rightarrow x \neq -1, 1 \\ x^2 \leq 4 \Rightarrow -2 \leq x \leq 2 \end{array} \right\} \Rightarrow D_f = \{2, 0, -2\}$

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

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