

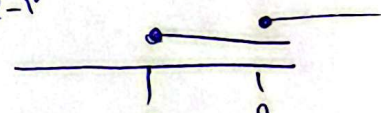
۱)  $\sqrt{4-x} - \sqrt{x-2} \rightarrow x-2 \geq 0 \rightarrow (x \geq 2)$  و  $4-x \geq 0 \rightarrow x \leq 4 \rightarrow 2 \leq x \leq 4$   
 $D_f = [2, 4]$   


۲)  $y = \sqrt{3-x} - \sqrt{x-2} \rightarrow x-2 \geq 0 \rightarrow x \geq 2$ ,  $3-x \geq 0 \rightarrow x \leq 3$   
 $2 \leq x \leq 3$   
 $D_f = [2, 3]$   


الف)  $\sqrt{4-2x^2} \rightarrow 4-2x^2 \geq 0 \rightarrow 4 \geq 2x^2 \rightarrow 2 \geq x^2 \rightarrow \sqrt{2} \geq |x| \rightarrow D_f = [-\sqrt{2}, \sqrt{2}]$

ب)  $\sqrt{3|x|-9} \rightarrow 3|x|-9 \geq 0 \rightarrow |x| \geq 3 \rightarrow -3 \leq x \leq 3 \rightarrow D_f = [-3, 3]$

الف)  $\sqrt{\frac{|x|+1}{|x|-3}} \rightarrow |x|-3 \neq 0 \rightarrow |x| \neq 3 \rightarrow x \neq \pm 3 \rightarrow D_f = R - \{\pm 3\}$

ب)  $\sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-3}} \rightarrow \sqrt{x} \geq 0$  I,  $\sqrt{x}-3 \geq 0 \rightarrow \sqrt{x} \geq 3 \rightarrow x \geq 9$  II  
 $D_f = [9, +\infty)$   


الف)  $\frac{\sqrt{3-|x|}}{|x|+2} \rightarrow 3-|x| \geq 0 \rightarrow 3 \geq |x| \rightarrow -3 \leq x \leq 3$   
 $|x|+2 \neq 0 \rightarrow |x| \neq -2 \checkmark$   
 $D_f = [-3, 3]$

ب)  $\sqrt{\frac{4-x^2}{|x|-1}} \rightarrow 4-x^2 \geq 0 \rightarrow 4 \geq x^2 \rightarrow -2 \leq x \leq 2$   
 $|x|-1 \neq 0 \rightarrow |x| \neq 1 \rightarrow x \neq \pm 1$   
 $D_f = [-2, 2] - \{\pm 1\}$

الف)  $\frac{x+1}{\sqrt{x}+\sqrt{x+1}} \rightarrow x+1 \geq 0 \rightarrow x \geq -1 \rightarrow D_f = R^+$

ب)  $\sqrt{\frac{1}{x(x+1)}} \rightarrow x > 0$  ✓  
 $D_f = R^+$

(الف)  $y = \sqrt{2 - [n]} \rightarrow 2 - [n] \geq 0 \rightarrow 2 \geq [n] \rightarrow \mathcal{D}_f = (-\infty, 2]$

(ب)  $y = \frac{1}{\sqrt{2 - [n]}} \rightarrow 2 - [n] > 0 \rightarrow 2 > [n] \rightarrow \mathcal{D}_f = (-\infty, 2)$

(الف)  $y = \frac{1}{n[n]} \rightarrow n[n] \neq 0 \xrightarrow{\text{مستقيم } n \text{ و } n \text{ اول}} \mathcal{D}_f = \mathbb{R} - \{0\}$

(ب)  $y = \frac{1}{\sqrt{-n[n]}} \rightarrow -n[n] > 0 \rightarrow n[n] < 0 \rightarrow \mathcal{D}_f = \emptyset$

(الف)  $y = \sqrt{[n - \frac{1}{n}] + [n + \frac{1}{n}]} \rightarrow [n - \frac{1}{n}] + [n + \frac{1}{n}] \geq 0 \rightarrow [n + \frac{1}{n} - 1] + [n + \frac{1}{n}] \rightarrow [n + \frac{1}{n}] - 1 + [n + \frac{1}{n}] \geq 0 \rightarrow [n + \frac{1}{n}] \geq 1 \rightarrow [n + \frac{1}{n}] \geq \frac{1}{n} \rightarrow \mathcal{D}_f = [\frac{1}{n}, +\infty)$

(ب)  $y = \sqrt{[n - \frac{1}{n}] + [-n + \frac{1}{n}]} \rightarrow a \in \mathbb{Z} \quad [a] + [-a] = 0 \rightarrow n - \frac{1}{n} \in \mathbb{Z}$   
 $a \notin \mathbb{Z} \quad [a] + [-a] = -1 \rightarrow \mathcal{D}_f = \{n | n = k + \frac{1}{n}, k \in \mathbb{Z}\}$

(الف)  $y = \frac{1}{r \sin^2 n - 1} \rightarrow r \sin^2 n - 1 \neq 0 \rightarrow r \sin^2 n \neq 1 \rightarrow \sin^2 n \neq \frac{1}{r} \rightarrow \sin n \neq \pm \frac{1}{\sqrt{r}}$   
 $\rightarrow \sin n \neq \pm \frac{1}{\sqrt{r}} \rightarrow \mathcal{D}_f = \{n \in \mathbb{R} | n \neq \frac{\pi}{2} + k\frac{\pi}{r}, k \in \mathbb{Z}\}$

(ب)  $y = \frac{\cos n + 1}{\tan n + 1} \rightarrow \left. \begin{array}{l} \tan n + 1 \neq 0 \\ \sin n \neq 0 \\ \cos n \neq 0 \end{array} \right\} \rightarrow \mathcal{D}_f = \{n \in \mathbb{R} | n \neq \frac{k\pi}{r}, n \neq \frac{r\pi}{2} + k\pi, k \in \mathbb{Z}\}$

(الف)  $y = \sqrt{r \sin n - 1} \rightarrow r \sin n - 1 \geq 0 \rightarrow r \sin n \geq 1 \rightarrow \sin n \geq \frac{1}{r}$   
 $\mathcal{D}_f = [\frac{\pi}{r} + 2k\pi, \frac{5\pi}{r} + 2k\pi]$

(ب)  $y = \sqrt{1 - r \cos n} \rightarrow 1 - r \cos n \geq 0 \rightarrow 1 \geq r \cos n \rightarrow \frac{1}{r} \geq \cos n$   
 $\mathcal{D}_f = [\frac{\pi}{r} + 2k\pi, \frac{5\pi}{r} + 2k\pi]$