

الف) $y = \sqrt{4 - \sqrt{2 - x}}$	$2 - x \geq 0 \Rightarrow x \leq 2$	$\rightarrow D_f = [-1, 2]$	۱
ب) $\sqrt{2 - \sqrt{x - 2}}$	$x \geq 2$	$\left. \begin{array}{l} 2 - \sqrt{x - 2} \geq 0 \Rightarrow \sqrt{x - 2} \leq 2 \Rightarrow x - 2 \leq 4 \Rightarrow x \leq 6 \\ 2 - \sqrt{x - 2} \geq 0 \Rightarrow \sqrt{x - 2} \leq 2 \Rightarrow x - 2 \leq 4 \Rightarrow x \leq 6 \end{array} \right\} D_f = [2, 6]$	۲
الف) $y = \sqrt{4 - 2x^2}$	$4 - 2x^2 \geq 0 \Rightarrow x^2 \leq 2 \Rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$	$D_f = [-\sqrt{2}, \sqrt{2}]$	۳
ب) $y = \sqrt[3]{3 x - 9}$	$3 x - 9 \geq 0 \Rightarrow x \geq 3$	$D_f = (-\infty, -3] \cup [3, +\infty)$	۴
الف) $y = \sqrt[3]{\frac{x+1}{ x +3}}$	$ x \neq 3 \Rightarrow x \neq \pm 3$	$D_f = \mathbb{R} - \{+3, -3\}$	۵
ب) $y = \sqrt[3]{\frac{\sqrt{x+1}}{\sqrt{x-3}}}$	$x \geq 0$	$\left. \begin{array}{l} \sqrt{x+1} \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9 \\ \sqrt{x-3} \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9 \end{array} \right\} D_f = [0, +\infty) - \{9\}$	۶
الف) $y = \frac{\sqrt{2 - x }}{ x + 2}$	$ x + 2 \neq 0$ $ x \neq -2$	$\left. \begin{array}{l} 2 - x \geq 0 \Rightarrow x \leq 2 \Rightarrow -2 \leq x \leq 2 \\ x + 2 \neq 0 \Rightarrow x \neq -2 \end{array} \right\} D_f = [-2, 2]$	۷
ب) $\frac{\sqrt{4 - x^2}}{ x - 1}$	$ x \neq 1$ $x \neq \pm 1$	$\left. \begin{array}{l} 4 - x^2 \geq 0 \Rightarrow x^2 \leq 4 \Rightarrow -2 \leq x \leq 2 \\ x \neq 1 \Rightarrow x \neq \pm 1 \end{array} \right\} D_f = [-2, 2] - \{-1, 1\}$	۸
الف) $y = \frac{x+1}{\sqrt{x+ x }}$	$x + x \geq 0$ $ x > -x$	$D_f = \mathbb{R}^+ \cup (0, +\infty)$	۹
ب) $y = \frac{1}{\sqrt{x x }}$	$x x > 0$	$D_f = \mathbb{R}^+ \cup (0, +\infty)$	۱۰

الف) $y = \sqrt{r - [n]}$

$r - [n] \geq 0 \Rightarrow D_f = (-\infty, r)$
 $[n] \leq r$

ب) $y = \frac{1}{\sqrt{r - [n]}}$

$r - [n] > 0 \quad [n] < r \quad D_f = (-\infty, r)$

الف) $y = \frac{1}{n[n]}$

$n[n] \neq 0$
 $n \neq 0$
 $[n] \neq 0 \rightarrow D_f = \mathbb{R} - [0, 1)$

ب) $y = \frac{1}{\sqrt{-n[n]}}$

$-n[n] > 0$
 $n[n] < 0 \quad D_f = \emptyset$

الف) $y = \sqrt{[n - \frac{1}{r}] + [n + \frac{r}{r}]} \Rightarrow [n - \frac{1}{r}] + [n + \frac{r}{r}] + 1 \geq 0$

ب) $y = \sqrt{[n - \frac{1}{r}] + [-n + \frac{1}{r}]}$

$r[n - \frac{1}{r}] \geq 1 \Rightarrow$

$[n + \frac{r}{r}] \geq \frac{1}{r}$

$n + \frac{r}{r} \geq 1$

$n \geq \frac{1}{r}$

$[n - \frac{1}{r}] - [n - \frac{1}{r}] \geq 0$

$n - \frac{1}{r} \in \mathbb{Z}$

$D_f = \{n/n = k+1, k \in \mathbb{Z}\}$

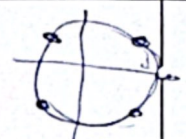
$D_f = [\frac{1}{r}, +\infty)$

الف) $y = \frac{1}{r \sin^2 x - 1}$

$\Rightarrow \sin^2 x \neq \frac{1}{r}$

$\sin x \neq \pm \sqrt{\frac{1}{r}}$

$D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{\sqrt{r}}\}$



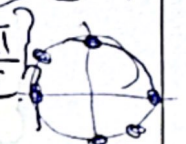
$\sin \neq 0$

ب) $y = \frac{\cos x + 1}{\tan x + 1}$

$\cos \neq 0$

$D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{r}, k\pi - \frac{\pi}{r}\}$

$\tan \neq -1$



الف) $y = \sqrt{r \sin x - 1}$

$r \sin x - 1 \geq 0$

$\sin x \geq \frac{1}{r}$

$D_f = [r k\pi + \frac{\pi}{r}, r k\pi + \frac{5\pi}{r}]$

$1/\sqrt{r}$



ب) $y = \sqrt{1 - r \cos x}$

$\cos x \leq \frac{1}{r}$

$D_f = [r k\pi + \frac{\pi}{r}, r k\pi + \frac{5\pi}{r}]$

