

الف) $y = \sqrt{4 - \sqrt{2-x}}$ $D_f = [-14, 2]$ ب) $y = \sqrt{3 - \sqrt{x-2}}$ $D_f = [2, 11]$	$2-x > 0$ $4 - \sqrt{2-x} > 0$ $x \leq 2$ $\sqrt{2-x} \leq 4$ $2-x \leq 14$ $x > -14$ $x-2 > 0$ $x > 2$ $3 - \sqrt{x-2} > 0$ $\sqrt{x-2} \leq 3$ $x-2 \leq 9$ $x \leq 11$	۱
الف) $y = \sqrt{4 - 2x^2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$ ب) $y = \sqrt{3 x - 9}$ $D_f = (-\infty, -3] \cup [3, \infty)$	$4 - 2x^2 > 0$ $2x^2 \leq 4$ $x^2 \leq 2$ $-\sqrt{2} \leq x \leq \sqrt{2}$ $3 x - 9 > 0$ $3 x > 9$ $x > 3$ $x > 3$ $x < -3$	۲
الف) $y = \sqrt{\frac{ x +1}{ x -3}}$ $D_f = R - \{\pm 3\}$ ب) $y = \sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-3}}$ $D_f = R^+ - \{9\}$	$x -3 \neq 0$ $x \neq 3$ $x \neq \pm 3$ $x > 0$ $\sqrt{x}-3 \neq 0$ $\sqrt{x} \neq 3$ $x \neq 9$	۳
الف) $y = \frac{\sqrt{3- x }}{ x +2} \rightarrow +\infty$ $D_f = [-3, 3]$ ب) $y = \frac{\sqrt{4-x^2}}{ x -1}$	$3- x > 0$ $x \leq 3$ $-3 \leq x \leq 3$ $4-x^2 > 0$ $x^2 \leq 4$ $-2 \leq x \leq 2$ $x -1 \neq 0$ $x \neq 1$ $x \neq \pm 1$ $D_f = [-2, 2] - \{\pm 1\}$	۴
الف) $y = \frac{x+1}{\sqrt{x+ x }}$ $D_f = R^+$ ب) $y = \frac{1}{\sqrt{x x }}$ $D_f = R^+$	$x+ x > 0$ $\oplus \checkmark$ $\ominus \times$ $\odot \times$ $x x > 0$ $\oplus \checkmark$ $\ominus \times$ $\odot \times$	۵

الف) $y = \sqrt{2 - [x]}$ $2 - [x] \geq 0$ $[x] \leq 2$ $D_f = (-\infty, 3)$ ب) $y = \frac{1}{\sqrt{2 - [x]}}$ $2 - [x] > 0$ $[x] < 2$ $D_f = (-\infty, 2)$	٦
الف) $y = \frac{1}{x[x]}$ $x[x] \neq 0$ $D_f = \mathbb{R} - [0, 1)$ ب) $y = \frac{1}{\sqrt{-x[x]}}$ $-x[x] > 0$ $x[x] < 0 \rightarrow$ $D_f = \emptyset$ ليس عدد وركبت x في تلك الحالات ليست	٧
الف) $y = \sqrt{[x - \frac{1}{x}] + [x + \frac{1}{x}]}$ $[x - \frac{1}{x}] + [x + \frac{1}{x}] \geq 0$ $[x + \frac{1}{x}] + [x + \frac{1}{x}] \geq 1$ $[x + \frac{1}{x}] \geq \frac{1}{2}$ $[x + \frac{1}{x}] \geq \frac{1}{x}$ $x + \frac{1}{x} \geq 1$ $x \geq \frac{1}{x}$ $D_f = [\frac{1}{x}, \infty)$ ب) $y = \sqrt{[x - \frac{1}{x}] + [-x + \frac{1}{x}]}$ $[x - \frac{1}{x}] + [-x + \frac{1}{x}] \geq 0$ $x - \frac{1}{x} \in \mathbb{Z}$ $x \in \mathbb{Z} + \frac{1}{x}$ $D_f = \{x x = k + \frac{1}{x}, k \in \mathbb{Z}\}$	٨
الف) $y = \frac{1}{r \sin^2 x - 1}$ $r \sin^2 x - 1 \neq 0$ $\sin^2 x \neq \frac{1}{r}$ $\sin x \neq \frac{\sqrt{r}}{r}$ $r \sin^2 x \neq 1$ $\sin x \neq \frac{1}{\sqrt{r}}$ $D_f = \mathbb{R} - \{kx + \frac{\pi}{r}, kx + \frac{\pi}{r}\}$ ب) $y = \frac{\cot x + 1}{\tan x + 1}$ $\tan x + 1 \neq 0$ $\tan x \neq -1$ $D_f = \mathbb{R} - \{kx, kx + \frac{\pi}{r}, kx + \frac{\pi}{r}\}$	٩
الف) $y = \sqrt{r \sin x - 1}$ $r \sin x - 1 \geq 0$ $r \sin x \geq 1$ $\sin x \geq \frac{1}{r}$ $D_f = [kx + \frac{\pi}{4}, kx + \frac{3\pi}{4}]$ ب) $y = \sqrt{1 - r \cos x}$ $1 - r \cos x \geq 0$ $r \cos x \leq 1$ $\cos x \leq \frac{1}{r}$ $D_f = [kx + \frac{\pi}{r}, kx + \frac{\pi}{r}]$	١٠