

الف) $\sqrt{4-\sqrt{2}x}$	$2-x \geq 0 \Rightarrow x \leq 2$	$4-\sqrt{2}x \geq 0 \Rightarrow 4 \geq \sqrt{2}x \Rightarrow 14 \geq 2-x \Rightarrow x \geq -14$	$D_f = [-14, 2]$	۱
ب) $\sqrt{3-\sqrt{x-2}}$	$x-2 \geq 0 \Rightarrow x \geq 2$	$3-\sqrt{x-2} \geq 0 \Rightarrow 3 \geq \sqrt{x-2} \Rightarrow 9 \geq x-2 \Rightarrow 11 \geq x$	$D_f = [2, 11]$	۲
الف) $y = \sqrt{4-2x^2}$	$4-2x^2 \geq 0 \Rightarrow 4 \geq 2x^2 \Rightarrow 2 \geq x^2 \Rightarrow \sqrt{2} \geq x \geq -\sqrt{2}$		$D_f = [-\sqrt{2}, \sqrt{2}]$	۳
ب) $y = \sqrt{3 x -9}$	$3 x -9 \geq 0 \Rightarrow 3 x \geq 9 \Rightarrow x \geq 3$	$x \geq 3$ $x \leq -3$	$D_f = [3, +\infty) \cup (-\infty, -3]$	۴
الف) $y = \sqrt[3]{\frac{ x +1}{ x -3}}$	$ x -3 \neq 0 \Rightarrow D_f = \mathbb{R} - \{-3, 3\}$	$\frac{ x }{3} \neq 3$		۵
ب) $y = \sqrt[3]{\frac{\sqrt{x+1}}{\sqrt{x-3}}}$	$\sqrt{x} \neq 3$ $x \neq 9$		$D_f = [0, +\infty) - \{9\}$	۶
الف) $y = \frac{\sqrt{3- x }}{ x +2}$	$3- x \geq 0 \Rightarrow 3 \geq x \Rightarrow 3 \geq x \geq -3 \Rightarrow D_f = [-3, 3]$	$ x +2 \neq 0 \Rightarrow x \neq -2$		۷
ب) $y = \frac{\sqrt{4-x^2}}{ x -1}$	$4-x^2 \geq 0 \Rightarrow 4 \geq x^2 \Rightarrow 2 \geq x \geq -2$	$ x -1 \neq 0 \Rightarrow \frac{ x }{1} \neq 1$	$D_f = [-2, 2] - \{-1, 1\}$	۸
الف) $y = \frac{x+1}{\sqrt{x+ x }}$	$x < 0$ معجز نیست $x+ x > 0 \Rightarrow x > 0 \Rightarrow D_f = (0, +\infty)$			۹
ب) $y = \frac{1}{\sqrt{x x }}$	$x x > 0$ $x^2 > 0 \Rightarrow x \neq 0 \Rightarrow D_f = (0, +\infty)$			۱۰

$\gamma_1, \gamma_2, \dots$

الف) $y = \sqrt{\gamma - [x]}$ $\gamma - [x] \geq 0$ $\gamma \geq [x] \rightarrow D_f = (-\infty, \gamma)$

ب) $y = \frac{1}{\sqrt{\gamma - [x]}}$ $\gamma - [x] > 0$
 $\gamma > [x] \rightarrow D_f = (-\infty, \gamma)$

الف) $y = \frac{1}{x[x]}$ $x[x] \neq 0$ $D_f = \mathbb{R} - [0, 1) \rightarrow (-\infty, 0) \cup (1, \infty)$

ب) $y = \frac{1}{\sqrt{-x[x]}}$ $-x[x] > 0$
 $x[x] < 0$ $\left. \begin{array}{l} [x] \geq 0 \\ x > 0 \\ [x] \leq 0 \\ x \leq 0 \end{array} \right\} \begin{array}{l} \text{حالت مثبت} \\ \text{حالت منفی} \end{array}$ $\emptyset$: نمایی

الف) $y = \sqrt{\left[x - \frac{1}{\gamma}\right] + \left[x + \frac{\gamma}{\gamma}\right]}$ $\left[x - \frac{1}{\gamma}\right] + \left[x + \frac{\gamma}{\gamma}\right] \geq 0$ $D_f = \left[\frac{1}{\gamma}, +\infty\right)$
 $\left[x - \frac{1}{\gamma}\right] + \left[x + \frac{\gamma}{\gamma}\right] - 1 + \left[x + \frac{\gamma}{\gamma}\right] \geq 0$ $x \geq \frac{1}{\gamma}$
 $\gamma \left[x + \frac{\gamma}{\gamma}\right] \geq 1$ $\left[x + \frac{\gamma}{\gamma}\right] \geq \frac{1}{\gamma} \rightarrow x + \frac{\gamma}{\gamma} \geq \frac{1}{\gamma}$

ب) $y = \sqrt{\left[x - \frac{1}{\gamma}\right] + \left[-x + \frac{1}{\gamma}\right]}$ $a \in \mathbb{Z} [a] + [-a] = 0$
 $a \notin \mathbb{Z} [a] + [-a] = -1 \Rightarrow x - \frac{1}{\gamma} \in \mathbb{Z}$
 $D_f = \left\{x \mid x \in k + \frac{1}{\gamma}, k \in \mathbb{Z}\right\}$

الف) $y = \frac{1}{\gamma \sin^{\gamma} x - 1}$ $\gamma \sin^{\gamma} x - 1 \neq 0$ $D_f = \mathbb{R} - \left\{\gamma k\pi + \frac{\pi}{\gamma}, \gamma k\pi + \frac{\gamma\pi}{\gamma}\right\}$
 $\gamma \sin^{\gamma} x \neq 1$
 $\sin^{\gamma} x \neq \frac{1}{\gamma}$
 $\sin x \neq \sqrt[\gamma]{\frac{1}{\gamma}}$

ب) $y = \frac{\cot x + 1}{\tan x + 1}$ $\tan x + 1 \neq 0$ $\tan x \neq -1 \Rightarrow \gamma k\pi - \frac{\pi}{\gamma}$
 $\cot x \neq 0$ $x \neq k\pi + \frac{\pi}{\gamma}$ $D_f = \mathbb{R} - \left\{k\pi + \frac{\pi}{\gamma}, k\pi - \frac{\pi}{\gamma}\right\}$

الف) $y = \sqrt{\gamma \sin x - 1}$ $\gamma \sin x - 1 \geq 0$ $\sin x \geq \frac{1}{\gamma}$
 $D_f = \left[\gamma k\pi + \frac{\pi}{\gamma}, \gamma k\pi + \frac{2\pi}{\gamma}\right]$

ب) $y = \sqrt{1 - \gamma \cos x}$ $1 - \gamma \cos x \geq 0$
 $1 \geq \gamma \cos x$ $D_f = \left(\gamma k\pi + \frac{\pi}{\gamma}, \gamma k\pi - \frac{\pi}{\gamma}\right)$
 $\frac{1}{\gamma} \geq \cos x$