

$$y = \frac{x+2}{x^2+x^2-1} \rightarrow \text{منوع} \rightarrow (x-1)$$

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$$y = \frac{2}{x^2-2|x-1|-2x+8}$$

$$D_f = \mathbb{R} - \left\{0, -2, 2, 4\right\}$$

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$$y = \sqrt{[x] - 2} \rightarrow [x] \geq 2 \rightarrow -\infty \leq x \rightarrow D_f = (-\infty, -2]$$

$$y = \frac{x^2+4}{[x]^2-2[x]-3} \rightarrow ([x]+1)([x]-3) \neq 0$$

$$D_f = \mathbb{R} - \left\{[-1, 0) \cup [3, 4)\right\}$$

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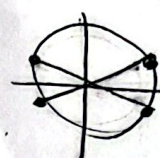
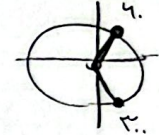
$$y = \sqrt{[x-\frac{1}{2}] + [x+\frac{1}{2}]} \rightarrow \sqrt{2[x-\frac{1}{2}]+1} \rightarrow [x-\frac{1}{2}] \geq -\frac{1}{2}$$

$$D_f = \left[\frac{1}{2}, +\infty\right)$$

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$$y = \sqrt{[x-\frac{1}{2}] + [\frac{1}{2}-x]} \rightarrow [a] + [-a] \rightarrow a \in \mathbb{Z}$$

$$D_f = \left\{x \mid x = k + \frac{1}{2}, k \in \mathbb{Z}\right\}$$

$y = \frac{\cot x + 1}{\sin x}$ داده: (ε, δ) (نوعی ۲) $\frac{\sin x}{\cos x} + 1 \neq 0 \rightarrow \tan x \neq -1$ $\cos x \neq 0$  $D_f = \mathbb{R} - \left\{ \pi + \frac{\pi}{2}, \pi - \frac{\pi}{2} \right\}$	$\Rightarrow y = \sqrt{1 - \varepsilon \sin^2 x} \quad \sin x \leq \frac{1}{\varepsilon}$  $-\frac{1}{\varepsilon} \leq \sin x \leq \frac{1}{\varepsilon}$ $D_f = \left[\pi + \frac{\pi}{4}, \pi + \frac{3\pi}{4} \right] \cup \left[\pi - \frac{3\pi}{4}, \pi - \frac{\pi}{4} \right]$
الف) $\sqrt{x \sin x - 1} \geq 0$ $\sin x \geq \frac{1}{x}$ (نوعی ۱ و ۲)  $D_f = \left[\pi + \frac{\pi}{4}, \pi + \frac{3\pi}{4} \right]$	$\Rightarrow \sqrt{1 - x \cos x} \geq 0$ $\frac{1}{x} \geq \cos x$ (نوعی ۲)  $D_f = \left[\pi + \frac{\pi}{4}, \pi + \frac{3\pi}{4} \right]$
الف) $y = \arcsin(x^2 + \varepsilon n + 1)$ $-1 \leq x^2 + \varepsilon n + 1 \leq 1$ $x^2 + \varepsilon n + 1 \leq 1 \rightarrow x^2 + \varepsilon n \leq 0$ $n(n + \varepsilon) \leq 0$ $\frac{-\varepsilon}{2} \leq n \leq 0$ $\left[-\frac{\varepsilon}{2}, 0 \right] \cup \left[-1, \frac{\varepsilon}{2} \right]$ $x^2 + \varepsilon n \geq -1 \rightarrow x^2 + \varepsilon n \geq -1$ $n(n + \varepsilon) \geq -1$ $\frac{-\varepsilon}{2} \leq n \leq 0$ $\left[-\frac{\varepsilon}{2}, 0 \right] \cup \left[-1, \frac{\varepsilon}{2} \right]$ $D_f = \left[-\frac{\varepsilon}{2}, -\frac{\varepsilon}{2} \right] \cup \left[-1, -1 \right]$	الف) $y = \sqrt{x \sin x} \quad x \leq \frac{\pi}{2}$ $-1 \leq \sqrt{x \sin x} \leq 1$ $\sqrt{x \sin x} \geq -1$ $x \sin x \geq 1 \rightarrow x \leq \frac{\pi}{2}$ $D_f = \left[\frac{\pi}{2}, \frac{\pi}{2} \right]$
$y = \log_2(1 - \log_2 x)$ $1 - \log_2 x > 0 \rightarrow \log_2 x < 1$ $x < 2$ $D_f = (0, 2)$	$\Rightarrow y = \log_2(1 - \log_2 \frac{1}{x})$ $1 - \log_2 \frac{1}{x} > 0 \rightarrow 1 > \log_2 \frac{1}{x} \rightarrow \frac{1}{x} < 2$ $x > \frac{1}{2}$ $D_f = (0, \frac{1}{2})$
$y = \sqrt{x^2 - n^2} \quad x \geq 1 \rightarrow x^2 - n^2 \geq 0$ $x^2 - \varepsilon n + \varepsilon \leq 0$ $(n-1)(n-\varepsilon) \leq 0$ $\frac{1}{2} \leq n \leq \frac{\varepsilon}{2}$ $D_f = \left[\frac{1}{2}, \frac{\varepsilon}{2} \right]$	$y = \left(\frac{xn + \omega}{xn + \varepsilon} \right)!$ $\frac{xn + \omega}{xn + \varepsilon} \in \mathbb{N} \rightarrow xn + \varepsilon \in \mathbb{N}$ $xn - \varepsilon n \in \mathbb{N}$ $n(x - \varepsilon) \in \mathbb{N}$ $n \in \frac{\mathbb{N}}{x - \varepsilon}$ $D_f = \left\{ n \mid n = \frac{\delta - \varepsilon k}{x - \varepsilon}, k \in \mathbb{N} \right\}$