

$y = \sqrt{1 - \sqrt{1 - x}} = 1 - \sqrt{1 - x} \geq 0 \rightarrow 1 \geq \sqrt{1 - x}$ (الف)
 $1 - x \geq 0 \rightarrow 1 \geq x$
 $x \geq -1$ [I, II]
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 $x = 1 \geq 0 \rightarrow x \geq 1$
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$y = \sqrt{F - P_0 x^2}$ $F - P_0 x^2 \geq 0 \rightarrow F \geq P_0 x^2 \rightarrow P_0 \geq x^2$ (الف)
 $\pm \sqrt{P_0} \geq x \rightarrow \left(-\sqrt{P_0} \leq x \leq \sqrt{P_0} \right)$
 $y = \sqrt{P_0 |x| - 9}$ $P_0 |x| \geq 9 \rightarrow |x| \geq \frac{9}{P_0} \rightarrow \left\{ x \geq \frac{9}{P_0} \right\} \cup \left\{ x \leq -\frac{9}{P_0} \right\}$ (ب)
 $\left[\frac{9}{P_0} + \infty \right) \cup \left(-\infty, -\frac{9}{P_0} \right]$ ✓

$$y = \sqrt[3]{\frac{|x|+1}{|x|-4}} \rightarrow |x|-4 \neq 0 \rightarrow |x| \neq 4 \rightarrow x \neq \pm 4$$

$$\mathbb{R} - \{-4, +4\}$$

$$y = \sqrt[3]{\frac{\sqrt{x+1}}{\sqrt{x}-4}} \rightarrow \sqrt{x}-4 \neq 0 \rightarrow \sqrt{x} \neq 4 \rightarrow x \neq 16$$

$$D_0 = \mathbb{R}^+ - \{16\} - [0, 4 \cup \infty) - \{9\}$$

$$y = \frac{\sqrt{1-x^2}}{1+x} \rightarrow \begin{aligned} &|x|+1 \neq 0 \rightarrow |x| \neq -1 \rightarrow x \neq \pm 1 \rightarrow -1 \\ &1-x^2 \geq 0 \rightarrow 1 \geq |x| \rightarrow -1 \leq x \leq 1 \end{aligned}$$

$D_f = [-1, 1] \cup (-1, 1]$ Ⓟ ✓ $D_f = [-1, 1] \cup (-1, 1]$

$$y = \frac{\sqrt{1-x^2}}{|x|-1} \Rightarrow \begin{aligned} &|x| \neq 1 \rightarrow x \neq \pm 1 \rightarrow x \neq +1 \\ &1-x^2 \geq 0 \rightarrow 1 \geq x^2 \rightarrow -1 \leq x \leq 1 \end{aligned}$$

$y = \frac{x+1}{\sqrt{x+|x|}} = x+1 \geq 0 \rightarrow |x| \geq -x$ هواره برقرار
 $D_f = \mathbb{R} \setminus \{0\} = (0, +\infty)$

$y = \frac{1}{\sqrt{x|x|}} = x/|x| \geq 0 \rightarrow D_f = (0, +\infty) \rightarrow \mathbb{R}^+$

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$$y = \sqrt{p - [x]} \quad p - [x] \geq 0 \rightarrow p \geq [x] \rightarrow x < p \rightarrow D_f = (-\infty, p)$$

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$$y = \frac{1}{\sqrt{p - [x]}} \rightarrow [x] < p \rightarrow [x] \geq p \rightarrow x \geq p$$

$$D_f = (-\infty, p) \cup [p, +\infty)$$

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$$y = \frac{1}{x[x]} \rightarrow D_f = \mathbb{R} - \{0\}$$

مقدارها هرگز خدای تعالی نیست

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$$y = \frac{1}{\sqrt{-x[x]}} \Rightarrow -x[x] > 0 \rightarrow x[x] < 0 \rightarrow D_f = \emptyset$$

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$$y = \sqrt{[x - \frac{1}{p}] + [x + \frac{p}{p}]} = [x - \frac{1}{p}] + [x + \frac{p}{p}] \geq 0 \quad D_f = [-\frac{1}{p}, +\infty)$$

$$[x - \frac{1}{p}] + [x + \frac{p}{p} - 1] \geq 0 \rightarrow [x - \frac{1}{p}] + [x - \frac{1}{p}] \geq 0$$

$$p[x - \frac{1}{p}] \geq 0 \rightarrow [x - \frac{1}{p}] \geq 0 \rightarrow x - \frac{1}{p} \geq 0 \rightarrow x \geq \frac{1}{p}$$

$$y = \sqrt{[x - \frac{1}{p}] + [x + \frac{1}{p}]} \rightarrow \begin{cases} \alpha \in \mathbb{Z} \rightarrow [\alpha] + [-\alpha] = 0 \\ \alpha \notin \mathbb{Z} \rightarrow [\alpha] + [-\alpha] = -1 \end{cases} \rightarrow x - \frac{1}{p} \geq 0$$

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

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$$y = \frac{1}{p \sin^p x - 1} \Rightarrow p \sin^p x \geq 1 \rightarrow \sin x \geq \pm \sqrt[p]{\frac{1}{p}} \times \frac{\sqrt{p}}{\sqrt{p}} = \pm \frac{\sqrt{p}}{p}$$

$$D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$$

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$$y = \frac{\cos x + 1}{\tan x + 1} \Rightarrow \begin{cases} \sin x \neq 0 \rightarrow x \neq k\pi \\ \tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4} \text{ و } x \neq k\pi + \frac{3\pi}{4} \end{cases}$$

$$D_f = \mathbb{R} - \{k\pi - \frac{\pi}{4}, k\pi + \frac{3\pi}{4}\}$$

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$$y = \sqrt{p \sin x - 1} \Rightarrow \sin x \geq \frac{1}{p} \rightarrow [2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}] \cup [2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{11\pi}{6}]$$

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$$y = \sqrt{1 - p \cos x} \Rightarrow p \cos x \leq 1 \rightarrow \cos x \leq \frac{1}{p}$$

$$D_f = [2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}]$$