

نام و نام خانوادگی آینه کلاس شماره تکلیف شماره پاسخنامه تشریحی A دهه

18, 18

الف) $y = \sqrt{4 - \sqrt{2-x}}$

$$\begin{cases} 2-x \geq 0 \\ 2 \geq x \end{cases}$$

$$\begin{cases} 4 - \sqrt{2-x} \geq 0 \\ 4 \geq \sqrt{2-x} \\ 16 \geq 2-x \rightarrow x \geq 2-16 = -14 \end{cases} \quad -14 \leq x \leq 2$$

$\rightarrow D_f = [-14, 2]$

✓

ب) $y = \sqrt{3 - \sqrt{x-2}}$

$$\begin{cases} x-2 \geq 0 \\ x \geq 2 \end{cases}$$

$$\begin{cases} 3 - \sqrt{x-2} \geq 0 \\ 3 \geq \sqrt{x-2} \rightarrow 9 \geq x-2 \end{cases}$$

$$2 \leq x \leq 11$$

$\rightarrow D_f = [2, 11]$

$$\boxed{11} \geq x$$

الف) $y = \sqrt{4 - 2x^2}$

$$4 - 2x^2 \geq 0$$

$$4 \geq 2x^2$$

$$2 \geq x^2 \quad \pm\sqrt{2} \geq x \rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$$

$D_f = [-\sqrt{2}, \sqrt{2}]$

✓

ب) $y = \sqrt{3|x| - 9}$

$$3|x| - 9 \geq 0$$

$$3|x| \geq 9$$

$$|x| \geq 3$$

$$3 \leq x \text{ or } x \leq -3$$

$D_f = (-\infty, -3] \cup [3, +\infty)$

الف) $y = \sqrt[3]{\frac{|x|+1}{|x|-3}}$

$$\begin{cases} |x|-3 \neq 0 \\ |x| \neq 3 \end{cases} \rightarrow \begin{cases} x \neq 3 \\ x \neq -3 \end{cases}$$

$D_f = \mathbb{R} \cdot \{\pm 3\}$

ب) $y = \sqrt[3]{\frac{\sqrt{x}+1}{\sqrt{x}-3}}$

$$\begin{cases} \sqrt{x}-3 \neq 0 \\ \sqrt{x} \neq 3 \end{cases} \rightarrow x \neq 9$$

$D_f = \mathbb{R} \cdot \{9\}$

$[0, +\infty) - \{9\}$

1, 5

الف) $y = \frac{\sqrt{3-|x|}}{|x|+2}$

$$|x|+2 \neq 0$$

$$|x| \neq -2$$

موردی ندارد

$$3-|x| \geq 0$$

$$3 \geq |x|$$

$$-3 \leq x \leq 3$$

$D_f = [-3, 3]$

✓

ب) $y = \frac{\sqrt{3-x^2}}{|x|-1}$

$$|x|-1 \neq 0$$

$$|x| \neq 1 \rightarrow x \neq \pm 1$$

$$3-x^2 \geq 0$$

$$3 \geq x^2$$

$$-2 \leq x \leq 2$$

$D_f = [-2, 2] - \{\pm 1\}$

برای صفر و منفی هاترین نشود

الف) $y = \frac{x+1}{\sqrt{x+|x|}}$

$$x+|x| \geq 0$$

$$x \geq -|x|$$

$D_f = (0, +\infty)$

✓

ب) $y = \frac{1}{\sqrt{x|x|}}$

$$x|x| \geq 0$$

$D_f = (0, +\infty)$

5

$$\text{الف) } y = \sqrt{2 - [x]}$$

$$2 - [x] \geq 0$$

$$D_f = (-\infty, 2)$$

$$\text{ب) } y = \frac{1}{\sqrt{2 - [x]}}$$

$$2 - [x] > 0$$

$$D_f = (-\infty, 2)$$

✓

$$\text{الف) } y = \frac{1}{x[x]}$$

$$x[x] \neq 0 \quad \begin{cases} x \neq 0 \\ [x] \neq 0 \end{cases}$$

$$D_f = \mathbb{R} - [0, 1)$$

$$\text{ب) } y = \frac{1}{\sqrt{-x[x]}}$$

$$-x[x] > 0$$

$$[x] > x \rightarrow D_f = \emptyset$$

✓

$$-1/2 \times -1$$

غير قابل قبول

$$\text{الف) } y = \sqrt{\left[x - \frac{1}{x}\right] + \left[x + \frac{1}{x}\right]}$$

$$\left[x - \frac{1}{x} + 1 - 1\right] + \left[x + \frac{1}{x}\right] \geq 0$$

$$2\left[x + \frac{1}{x}\right] - 1 \geq 0$$

$$\left[x + \frac{1}{x}\right] \geq \frac{1}{2}$$

$$\left[x + \frac{1}{x}\right] \geq 1$$

$$x \geq 1 - \frac{1}{x} = \frac{1}{x}$$

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

✓

$$\text{ب) } y = \sqrt{\left[x - \frac{1}{x}\right] + \left[-x + \frac{1}{x}\right]}$$

$$[a] + [-a] = 0 \quad a \in \mathbb{Z} \rightarrow x - \frac{1}{x} \in \mathbb{Z}$$

$$[a] + [-a] = -1 \quad a \notin \mathbb{Z} \rightarrow x - \frac{1}{x} \in \mathbb{Z}$$

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

$$\text{الف) } y = \frac{1}{2 \sin^2 x - 1}$$

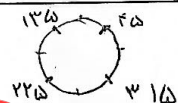
$$2 \sin^2 x - 1 \neq 0$$

$$2 \sin^2 x \neq 1$$

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

$$\sin x \neq \pm \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \pm \frac{\sqrt{2}}{2}$$

1, 1/2



$$D_f = \mathbb{R} - \left\{\frac{k\pi}{2}, k\pi - \frac{\pi}{4}\right\}$$

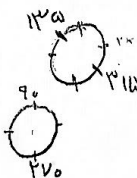
$$\text{ب) } y = \frac{\cot x + 1}{\tan x + 1}$$

$$\tan x + 1 \neq 0$$

$$\tan x \neq -1$$

$$\cos x \neq 0$$

$$\sin x \neq 0$$



$$D_f = \mathbb{R} - \left\{2k\pi + \frac{\pi}{2}, 2k\pi - \frac{\pi}{2}, 2k\pi + \frac{\pi}{4}, 2k\pi - \frac{\pi}{4}\right\}$$

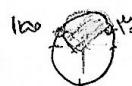
$$\text{الف) } y = \sqrt{2 \sin x - 1}$$

$$2 \sin x - 1 \geq 0$$

$$2 \sin x \geq 1$$

$$\sin x \geq \frac{1}{2}$$

$$D_f = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}\right]$$



$$\text{ب) } y = \sqrt{1 - 2 \cos x}$$

$$1 - 2 \cos x \geq 0$$

$$1 \geq 2 \cos x$$

$$\frac{1}{2} \geq \cos x$$

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

