

نام و نام خانوادگی: ... حسین ... شماره کلاس: ...

الف) $\sqrt{4-\sqrt{2-n}} = y \Rightarrow 2-n > 0, 4-\sqrt{2-n} > 0$
 $\Rightarrow 2 > n \quad \Rightarrow 4 > \sqrt{2-n} \Rightarrow 16 > 2-n \Rightarrow n > -14$
 $D = [-14, 2]$

ب) $\sqrt{3-\sqrt{n-2}} \Rightarrow n-2 > 0, 3-\sqrt{n-2} > 0$
 $\Rightarrow n > 2 \quad \Rightarrow 3 > \sqrt{n-2} \Rightarrow 9 > n-2 \Rightarrow n \leq 11$
 $D = [2, 11]$

الف) $y = \sqrt{4-2n^2} \Rightarrow 4-2n^2 > 0 \Rightarrow 4 > 2n^2 \Rightarrow 2 > n^2$
 $-\sqrt{2} \leq n \leq \sqrt{2}$
 $D = [-\sqrt{2}, \sqrt{2}]$

ب) $\sqrt{3|n|-9} \Rightarrow 3|n|-9 > 0 \Rightarrow 3|n| > 9 \Rightarrow |n| > 3$
 $D = (-\infty, -3] \cup [3, +\infty)$

الف) $y = \sqrt{\frac{|n|+1}{|n|-3}} \Rightarrow |n|-3 \neq 0 \Rightarrow |n| \neq 3$
 $D = \mathbb{R} - \{-3, 3\}$

ب) $y = \sqrt{\frac{\sqrt{n}+1}{\sqrt{n}-3}} \Rightarrow \sqrt{n}-3 \neq 0 \Rightarrow \sqrt{n} \neq 3$
 $D = \mathbb{R} - \{9\}$

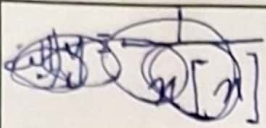
الف) $\frac{\sqrt{3-|n|}}{|n|+2} \Rightarrow 3-|n| > 0 \Rightarrow |n| < 3$
 $D = [-3, 3]$

ب) $\frac{\sqrt{4-n^2}}{|n|-1} \Rightarrow 4-n^2 > 0, |n|-1 \neq 0 \Rightarrow |n| \neq 1$
 $D = [-2, 2] - \{-1, 1\}$

الف) $y = \frac{n+1}{\sqrt{n+|n|}} \Rightarrow n+|n| > 0$
 $D = (0, +\infty)$

ب) $y = \frac{1}{\sqrt{n|n|}} \Rightarrow n|n| \neq 0 \Rightarrow n \neq 0$
 $D = \mathbb{R} - \{0\}$

ملاحظه شود: هر عددی با 0 هم علامت است
 پس $n|n| > 0$ معنای آن است که n و $|n|$ هم علامت باشند
 $\mathbb{R} \cap \mathbb{R} - \{0\} = \mathbb{R} - \{0\}$



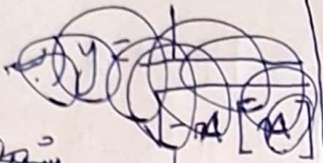
$$\sqrt{1-x} = y \Rightarrow 1-x \geq 0 \Rightarrow 1 \geq x$$

$$D = (-\infty, 1)$$

$$x < 1$$

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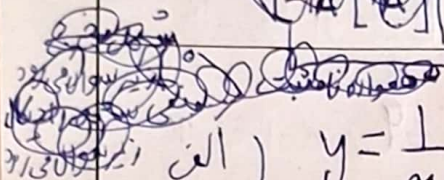
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$$\frac{1}{\sqrt{1-x}} = y \Rightarrow 1-x > 0 \Rightarrow 1 > x$$

$$D = (-\infty, 1)$$

$$x < 1$$



الف) $y = \frac{1}{x[x]}$

$$\Rightarrow x[x] \neq 0 \Rightarrow x \neq 0 \text{ و } [x] \neq 0$$

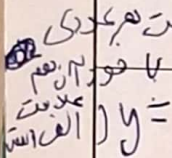
$$\Rightarrow D = \mathbb{R} - \{0\}$$

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ب) $y = \frac{1}{\sqrt{-x[x]}}$

$$\Rightarrow -x[x] > 0$$



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

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

$$D = [\frac{1}{x}, +\infty)$$

$$x \geq \frac{1}{x} \Leftrightarrow x + \frac{1}{x} \geq 1 \Leftrightarrow [x + \frac{1}{x}] \geq 1 \Leftrightarrow 2[x + \frac{1}{x}] \geq 1 \Leftrightarrow [x + 1 - \frac{1}{x}] + [x + \frac{1}{x}] \geq 1$$

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

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

$$[a] + [-a] = 0$$

$$[a] + [-a] = -1$$

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

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

$$D = \{k\pi + \frac{\pi}{4}\}$$



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

$$\Rightarrow \cot x \neq -1, \tan x \neq -1$$

$$D = \{k\pi, k\pi + \frac{\pi}{2}\}$$

الف) $y = \sqrt{1 - \sin x}$



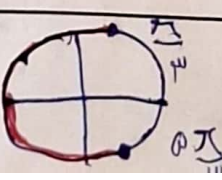
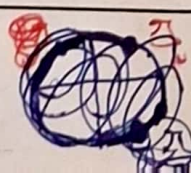
$$\Rightarrow 1 - \sin x \geq 0 \Rightarrow \sin x \leq 1 \Rightarrow \sin x \geq -1$$

$$D = [2k\pi + \frac{\pi}{4}, 2k\pi + \frac{5\pi}{4}]$$

ب) $y = \sqrt{1 - \cos x}$

$$\Rightarrow 1 - \cos x \geq 0 \Rightarrow \cos x \leq 1 \Rightarrow \cos x \geq -1$$

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



$$\mathbb{R} - [2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}]$$