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گروه دهم، پنجشنبه

الف) $y = \sqrt{4 - \sqrt{2 - x}} \rightarrow 2 - x \geq 0 \quad x \leq 2$ -1

$4 - \sqrt{2 - x} \geq 0 \quad \sqrt{2 - x} \leq 4$ ^{بزرگتر} $2 - x \leq 16 \rightarrow -14 \leq x$

$D_f = [-14, 2]$

$\frac{-14 \quad 2}{-14 \quad 2}$

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ب) $y = \sqrt{3 - \sqrt{x - 2}} \rightarrow x - 2 \geq 0 \rightarrow x \geq 2$

$3 - \sqrt{x - 2} \geq 0 \rightarrow \sqrt{x - 2} \leq 3$ ^{بزرگتر} $x - 2 \leq 9 \rightarrow x \leq 11$

$D_f = [2, 11]$

-2 10

الف) $y = \sqrt{4 - 2x^2} \rightarrow (2 - \sqrt{2}x)(2 + \sqrt{2}x) \geq 0$ $\frac{-\sqrt{2}}{-2} + \frac{\sqrt{2}}{-2}$

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

ب) $y = \sqrt{3|n| - 9} \rightarrow 3|n| - 9 \geq 0 \rightarrow 3|n| \geq 9 \rightarrow |n| \geq 3 \rightarrow \begin{cases} n \geq 3 \\ n \leq -3 \end{cases}$

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

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الف) $y = \sqrt{x^2 - 4} \rightarrow x^2 - 4 \geq 0 \rightarrow x^2 \geq 4 \rightarrow x \geq 2 \text{ یا } x \leq -2$ -3

$D_f = \mathbb{R} - \{ \pm 2 \}$

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ب) $y = \sqrt{x} \rightarrow x \geq 0$

$\sqrt{x} - 2 \neq 0 \rightarrow \sqrt{x} \neq 2 \quad x \neq 4$ $D_f = [0, +\infty) - \{4\}$

الف) $y = \frac{\sqrt{3 - |n|}}{|n| + 2} \rightarrow 3 - |n| \geq 0 \rightarrow |n| \leq 3 \rightarrow -3 \leq n \leq 3$ -4

$|n| + 2 \neq 0$ ^{همیشه بزرگتر} $D_f = [-3, 3]$

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ب) $y = \frac{\sqrt{4 - n^2}}{|n| - 1} \rightarrow (2 - n)(2 + n) \geq 0$ $\frac{-2}{-1} + \frac{2}{-1}$

$|n| - 1 \neq 0 \quad |n| \neq 1 \rightarrow n \neq \pm 1$

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

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(الف) $x + |x| > 0 \rightarrow D_f = \mathbb{R}^+ \cup (0, +\infty)$

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(ب) $x|x| > 0 \rightarrow D_f = \mathbb{R}^+ \cup (0, +\infty)$

(الف) $y - [x] > 0 \rightarrow y > [x] \quad D_f = (-\infty, 3)$

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(ب) $y - [x] > 0 \rightarrow y > [x] \quad D_f = (-\infty, 2)$

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

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(ب) ~~NAKAT~~ $-x[n] > 0 \rightarrow$ $[n], x$ مختلف العلامت نیستند $\rightarrow D_f = \emptyset$

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(الف) $[x - \frac{1}{4}] + [x + \frac{1}{4}] > 0 \xrightarrow{+1} [x - \frac{1}{4} + 1] + [x + \frac{1}{4}] > 1$

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$\rightarrow y [x + \frac{1}{4}] > 1 \rightarrow [x + \frac{1}{4}] > \frac{1}{y} \rightarrow x > \frac{1}{y} \rightarrow D_f = [\frac{1}{y}, +\infty)$

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(ب) $[x - \frac{1}{4}] + [-x - \frac{1}{4}] > 0$ $\xrightarrow{\text{باتوجه به فرمول های بالا}}$ if $\begin{cases} a \in \mathbb{Z} & [a] + [-a] = 0 \\ a \notin \mathbb{Z} & [a] + [-a] = -1 \end{cases}$

$\rightarrow x - \frac{1}{4} \in \mathbb{Z} \rightarrow D_f = \{x = k + \frac{1}{4} \mid k \in \mathbb{Z}\}$

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(الف) $y \sin x - 1 \neq 0 \quad \sin x \neq \frac{1}{y} \rightarrow \sin x \neq \pm \frac{1}{y} \rightarrow$ 

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

(ب) $\cos x \neq \frac{\cos x}{\sin x} \rightarrow \sin x \neq 0 \rightarrow x \neq k\pi$ 

$\tan x = \frac{\sin x}{\cos x} \rightarrow \cos x \neq 0 \rightarrow x \neq k\pi + \frac{\pi}{2}$ 

$\tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4}$ 

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

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الف) $r \sin \alpha = 1, 0 \rightarrow r \sin \alpha > 1 \quad \sin \alpha > \frac{1}{r}$



-1. 20

$$D_f = \left[rK\pi + \frac{\pi}{r}, rK\pi + \frac{2\pi}{r} \right]$$

ب) $1 - r \cos \alpha > 0 \rightarrow r \cos \alpha < 1 \quad \cos \alpha < \frac{1}{r}$



$$D_f = \left[rK\pi + \frac{\pi}{r}, rK\pi + \frac{2\pi}{r} \right]$$

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Parsian

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