

$$f(x) = \sqrt{(x-1)x^2 + x + b} \quad D_f: [c, +\infty)$$

$$a \leq x \leq \frac{a+2}{2} \Rightarrow f(x) = b \Rightarrow \frac{b-4}{2} \quad \text{پ}$$

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$$f(x) = \sqrt{x^2 + 2x + 5 - m}$$

$$D_f: \mathbb{R} \Rightarrow \begin{cases} x_0 \Rightarrow f(x_0) = 1 \Rightarrow x_0 = 1 + \epsilon m \Rightarrow \epsilon(m-1)(m+1) \\ +1 \quad -1 \end{cases} \quad \text{پ}$$

$$m \neq 1, -1 \Rightarrow \frac{1}{m-1} \quad \text{پ}$$

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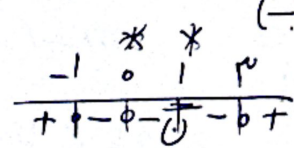
$$f(x) = \frac{\sqrt{4-x^2}}{[x] + [-x] + 1}$$

$$\Rightarrow x \in \mathbb{Z} \quad -2 \leq x \leq 2$$

$$D_f = \{-2, -1, 0, 1, 2\} \Rightarrow \text{پ} \quad \begin{cases} \text{if } x \in \mathbb{Z} \Rightarrow [x] + [-x] = 0 \\ \text{if } x \notin \mathbb{Z} \Rightarrow [x] + [-x] = -1 \end{cases} \quad \text{پ}$$

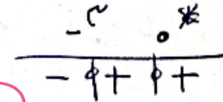
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$$y = \sqrt{\frac{(x^2-1)(x^2-m^2)}{x^2-1}}$$



$$D_f = (-\infty, -1] \cup [0, 1] \cup [2, +\infty) \quad \text{پ}$$

$$y = \sqrt{x^2 + 2x} \Rightarrow \frac{x^2}{2} (x+2) \geq 0 \quad (x)$$



$$D_f = [c, +\infty) \quad \text{پ}$$

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$$y = \sqrt{4-x^2} \Rightarrow 4-x^2 \geq 0$$

$$\begin{aligned} 1-x^2 &\leq 4 & -5 \leq x &\leq 3 \\ -4 \leq -x^2 &\leq 4 & -2 \leq x &\leq 2 \end{aligned}$$

$$D_f = [-2, 2] \quad \text{پ}$$

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$$y = \sqrt{x^2 - 1} \Rightarrow |x-1| \geq 1 \quad (x)$$

$$x-1 \geq 1 \Rightarrow x \geq 2$$

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

$$D_f = (-\infty, -1] \cup [2, +\infty) \quad \text{پ}$$

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$$y = \frac{1}{\sqrt{3-|n-5|-1}} \Rightarrow |n-5| < 2$$

$$-2 < n-5 < 2 \quad +3 \Rightarrow n < 7$$

$$D_f = [4, 7]$$

$$y = \sqrt{1-|n|} \Rightarrow |n| < 1$$

$$D_f = (-1, 1]$$

صورت سوال را اشتباه نزن!

$\sqrt{3-|n-5|} - 1$ $\sqrt{3-|n-5|} \neq 0$

1.25

$$y = \frac{\cos n}{1+\cos n} \Rightarrow |1+\cos n|$$

$$\cos n \neq \frac{1}{2}$$

$$n \neq \frac{\pi}{3} + k\pi$$

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

$$y = \frac{\sin^2 n - 1}{\cos n} \Rightarrow \cos n \neq 0$$

$$n \neq \frac{\pi}{2} + k\pi$$

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

$$y = \sqrt{|n+1|-|n+5|} \Rightarrow |n+1| \geq |n+5|$$

$$|n+1| \geq n+5 \Rightarrow n \leq -2$$

$$|n+1| \leq -n-5 \Rightarrow n \leq -3$$

$$D_f = (-\infty, -3] \cup [1, +\infty)$$

$$y = \frac{n+3}{|n+1|-|n+5|}$$

$$\Rightarrow |n+1| \neq |n+5|$$

$$\begin{cases} n+1 \neq n+5 \\ n+1 \neq -(n+5) \end{cases}$$

$$n \neq -3$$

$$D_f = \mathbb{R} - \left\{ -3 \right\}$$

$$f(n) = \sqrt{\log_{10} \log_{10} (n-1)}$$

$$\Rightarrow \log_{10} \log_{10} (n-1) \geq 0$$

$$\log_{10} (n-1) \geq 1 \Rightarrow n-1 \geq 10 \Rightarrow n \geq 11$$

$$D_f = [11, +\infty)$$

$$y = \sqrt{\log \frac{n-1}{n+1}}$$

$$\Rightarrow \frac{n-1}{n+1} \geq 0$$

$$\frac{-1}{+1} \leq \frac{n-1}{n+1} \leq \frac{1}{+1}$$

$$(-\infty, -1) \cup (1, +\infty)$$

$$D_f = (-\infty, -1) \cup (1, +\infty)$$

$$y = \log(\cos n + 1)$$

$$1 + \cos n \geq 0 \Rightarrow \cos n \geq -1$$

$$D_f = \mathbb{R}$$

4- ب) $3 - |n-5| \geq 0 \rightarrow |n-5| \leq 3 \rightarrow -3 \leq n-5 \leq 3 \rightarrow 2 \leq n \leq 8$

$\sqrt{3 - |n-5|} - 1 \neq 0 \rightarrow \sqrt{3 - |n-5|} \neq 1 \rightarrow 3 - |n-5| \neq 2 \rightarrow |n-5| \neq 2 \rightarrow n \neq 7, 3$

$D_f = [2, 8] - \{3, 7\} = [2, 3) \cup (3, 7) \cup (7, 8]$

9) $\log_{\frac{1}{5}} \log_5^{2n-1} \rightarrow 2n-1 > 0 \rightarrow n > \frac{1}{2}$

$\log_5^{2n-1} > 0 \rightarrow 2n-1 > 0 \rightarrow 2n-1 > 1 \rightarrow n > 1$

$\log_{\frac{1}{5}} \log_5^{2n-1} \geq 0 \xrightarrow[\text{مستود!}]{\text{من بابي دوا}} \log_5^{2n-1} \leq (4/5)^0 \rightarrow \log_5^{2n-1} \leq 1 \rightarrow 2n-1 \leq 5 \rightarrow 2n \leq 6 \rightarrow n \leq 3$

$\hookrightarrow D_f = (1, 3]$
