

الف) $y = \sqrt{|x-2| - 3} \Rightarrow |x-2| - 3 \geq 0 \Rightarrow |x-2| \geq 3$
 $\Rightarrow x-2 \geq 3 \Rightarrow x \geq 5$
 $\Rightarrow x-2 \leq -3 \Rightarrow x \leq -1$
 $\Rightarrow D_f = (-\infty, -1] \cup [5, +\infty)$

مصادف را در نظر بکنند!

وقتی x از ۱- کوچکتر باشد

ب) $y = \sqrt{4 - |x-2|} \Rightarrow 4 - |x-2| \geq 0 \Rightarrow |x-2| \leq 4$

۱) $4 + x^2 - 4x \leq 16 \Rightarrow x^2 - 4x - 12 \leq 0$
 $(x-6)(x+2) \leq 0$

$\Rightarrow D_f = (-\infty, -2] \cup [4, +\infty)$

$-2 \leq x \leq 4$

الف) $y = \sqrt{1 - x|x|} \Rightarrow 1 - x|x| \geq 0 \Rightarrow x|x| \leq 1$

۱ ۱ ✓
 $-1 + 1 \rightarrow$ کار ندارد (مقتی)

$D_f = (-\infty, 1]$

ب) $y = \frac{1}{\sqrt{3 - |x-a| - 1}} \Rightarrow 3 - |x-a| - 1 > 0 \Rightarrow |x-a| < 2$
 $\Rightarrow x^2 - 10x + 21 < 0 \Rightarrow (x-3)(x-7) < 0$

$\Rightarrow D_f = (3, 7)$

صورت سوال را اشتباه نرست! $\sqrt{3 - |x-a|} - 1$
 $\sqrt{3 - |x-a|} - 1 \neq 0$

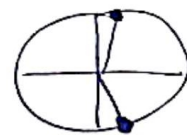
الف) $y = \frac{\sin^2 x - 1}{\cos x} \Rightarrow \cos x \neq 0$



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

ب) $y = \frac{\cos x}{2\cos x - 1} \Rightarrow 2\cos x - 1 \neq 0 \Rightarrow \cos x \neq \frac{1}{2}$

$\Rightarrow D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3} \right\}$



$$\text{و) } y = \frac{n+3}{|2n+1| - |n+3|} \Rightarrow |2n+1| - |n+3| \neq 0 \quad (1)$$

$$\Rightarrow |2n+1| \neq |n+3|$$

$$\xrightarrow{1)} \quad \cancel{\varepsilon n^2} + 1 + \varepsilon n \neq \cancel{n^2} + 9 + 4n \Rightarrow 3n^2 - 2n - 8 \neq 0$$

$$\Rightarrow n^2 - 2n - 2\varepsilon \neq 0 \Rightarrow (n-4)(n+\varepsilon) \neq 0 \Rightarrow n \neq \frac{4}{3} \quad \frac{-\varepsilon}{3}$$

$$\Rightarrow D_f = \mathbb{R} - \left\{ \frac{4}{3}, -\frac{\varepsilon}{3} \right\}$$

$$\text{ب) } \sqrt{|2n+1| - |n+3|} \Rightarrow |2n+1| - |n+3| \geq 0 \Rightarrow$$

$$|2n+1| \geq |n+3| \xrightarrow{1)} \quad \varepsilon n^2 + 1 + \varepsilon n \geq n^2 + n^2 + 9 \Rightarrow$$

$$3n^2 - 2n - 8 \geq 0 \quad \frac{-\varepsilon}{3} \quad \frac{2}{3} \Rightarrow D_f = (-\infty, -\frac{\varepsilon}{3}] \cup [\frac{2}{3}, +\infty)$$

$$f(n) = \sqrt{\log_{\log \frac{1}{\delta}} (2n-1)} \Rightarrow \log_{\log \frac{1}{\delta}} (2n-1) \rightarrow 2n-1 > 0 \Rightarrow n > \frac{1}{2} \quad (2)$$

$$\log_{\frac{1}{\delta}} 2n-1 \geq \frac{1}{\delta} \Rightarrow 2n-1 \geq \frac{1}{\delta} \Rightarrow n \geq \frac{1}{2\delta} \quad (1, 2)$$

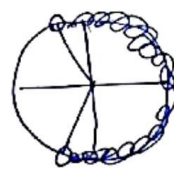
$$\Rightarrow D_f = \left[\frac{1}{2\delta}, +\infty \right)$$

وقت مباینی ه والی به نام دهن عوض مرشد!

$\log_{\frac{1}{\delta}} 2n-1 \leq 1 \rightarrow 2n-1 \leq \frac{1}{\delta} \rightarrow n \leq \frac{1}{2\delta} + \frac{1}{2}$

$$\text{ان) } y = \log (2\cos n + 1) \Rightarrow 2\cos n + 1 > 0 \Rightarrow \cos n > -\frac{1}{2} \quad (10)$$

$$\Rightarrow D_f = \left(2k\pi - \frac{2\pi}{3}, 2k\pi + \frac{2\pi}{3} \right)$$



$$\text{ب) } y = \sqrt{\log \frac{n-1}{n+1}} \Rightarrow \log \frac{n-1}{n+1} \geq 0$$

$$\frac{n-1}{n+1} \geq 1 \Rightarrow \frac{n-1}{n+1} - 1 \geq 0 \Rightarrow \frac{-2}{n+1} \geq 0 \Rightarrow D_f = (-\infty, -1)$$

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

(۲) چون دامنه تابع R است پس عبارت زیر را سیال همواره نامتناهی است پس باید سهم (بارشیه‌ی مضاعف یا بدون ریشه) ^{صحت +} ^{صحت -}

مواضعیم (سهمی min دار است چون ضریب n^2 می‌باشد)

$$\Delta \leq 0 \rightarrow (2)^2 - 4(2-n^2) \leq 0 \rightarrow 4 - 8 + 4n^2 \leq 0 \rightarrow 4n^2 \leq 4 \rightarrow n^2 \leq 1$$

$$-1 \leq n \leq 1 \rightarrow \min(n) = -1 \rightarrow \max(n) - \min(n) = 1 - (-1) = 2$$

$\hookrightarrow \max(n) = -1$

ج-۳) $\frac{(n^2-1)(n^3-n^2)}{(n^2-1)} \geq 0 \rightarrow \frac{(n-1)(n+1)(n^2)(n-1)}{(n-1)(n^2+n+1)} \geq 0$

$\Delta \leq 0$ ریشه ندارد

$\begin{array}{ccccccc} & -1 & & 0 & & 1 & & 3 \\ + & 0 & - & 0 & - & 0 & - & 0 & + \end{array}$

$D_f = (-\infty, -1] \cup \{0\} \cup [3, +\infty)$

ج-۴) $3 - |n-5| \geq 0 \rightarrow |n-5| \leq 3 \rightarrow -3 \leq n-5 \leq 3 \rightarrow 2 \leq n \leq 8$

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

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

الف-۵) $|n-2| - 3 \geq 0 \rightarrow |n-2| \geq 3 \rightarrow n-2 \geq 3 \rightarrow n \geq 5$
 $\hookrightarrow n-2 \leq -3 \rightarrow n \leq -1$

$\rightarrow D_f = (-\infty, -1] \cup [5, +\infty)$

۹) $\log_{\frac{1}{5}} \log_a^{n-1} \rightarrow n-1 > 0 \rightarrow n > 1$

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

$\log_{\frac{1}{5}} \log_a^{n-1} \geq 0$ ^{منابعین ه‌را} ^{حیث عوض} ^{منه‌د!} $\rightarrow \log_a^{n-1} \leq 1 \rightarrow \log_a^{n-1} \leq 1 \rightarrow n-1 \leq 5 \rightarrow n \leq 6 \rightarrow n \leq 3$

$\hookrightarrow D_f = (1, 3]$