

$$f(x) = \sqrt{(a-r)x^2 + ax + b} \quad \Rightarrow \quad \sqrt{2x+b} \xrightarrow{x=r} \sqrt{2+b} \neq 0 \Rightarrow b = -6$$

برای اینکه عبارت زیر رادیکال از ۳ به بعد تقریباً شمره باشد } $a=2$

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2} \quad D_f = \mathbb{R} \Rightarrow 4 - 1 + m^2 \leq 0 \Rightarrow m^2 \leq 3 \Rightarrow m \in [-\sqrt{3}, \sqrt{3}]$$

$$1 - (-1) = 2 \Rightarrow m^2 \leq 1 \Rightarrow m \in [-1, 1]$$

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

قابل قبول $x \in \mathbb{Z} \rightarrow [x] + [-x] = 0$
 غرض $x \in \mathbb{R} \setminus \mathbb{Z} \rightarrow [x] + [-x] = -1$

$\Rightarrow$ $x \in [-2, -1) \cup (1, 2] \Rightarrow$ $\boxed{\text{جواب}}$

$$g(x) = \sqrt{x^2(x+3)} \Rightarrow x = 0, -3 \rightarrow D_g = [-3, +\infty)$$

$$y = \sqrt{\frac{(x^2-1)(x^2-3x)}{x^2-1}} \rightarrow 0, 0, 3 \rightarrow D_f = (-\infty, -1] \cup [2, +\infty) \cup \{0\}$$

بنا بر این $x=0$ عبارت برابر ۰ است پس در دامنه است

$$g(x) = \sqrt{|x-2|-3} \Rightarrow |x-2| \geq 3 \Rightarrow x \leq -1 \text{ or } x \geq 5 \Rightarrow D_g = (-\infty, -1] \cup [5, +\infty)$$

$$g(x) = \sqrt{4-|2-x|} \Rightarrow |2-x| \leq 4 \Rightarrow x \leq 6 \text{ or } x \geq -2 \Rightarrow D_g = [-2, 6]$$

$$f(x) = \sqrt{1-x}|x| \Rightarrow x|x| \leq 1 \quad \text{I} \quad x^2 \leq 1 \Rightarrow -1 \leq x \leq 1$$

$$\text{II} \quad x \leq 0 \Rightarrow x|x| = -x^2 \Rightarrow -x^2 \leq 1 \Rightarrow x^2 \geq -1 \Rightarrow \text{همیشه درست است}$$

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

$$\frac{1}{\sqrt{3-|x-5|}} \rightarrow 3-|x-5| > 0 \Rightarrow |x-5| < 3 \Rightarrow x \in (2, 8)$$

صورت سوال را استبانه نوشتی!

$$3-|x-5| \geq 0$$

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

$$a) \frac{\sin^2 x - 1}{\cos x}$$

$$\Rightarrow \cos x \neq 0 \Rightarrow x \neq K\pi \Rightarrow D_f = \mathbb{R} - \{K\pi\}$$

$$x = K\pi, \sin x = 0$$

$$x = K\pi + \frac{\pi}{2}, \cos x = 0$$



$$K\pi + \frac{\pi}{2}$$

$$b) \frac{\cos x}{\cos x - 1}$$

$$\Rightarrow \cos x \neq 1 \Rightarrow x \neq 2K\pi + \frac{\pi}{1} \Rightarrow D_f = \mathbb{R} - \{2K\pi + \frac{\pi}{1}, 2K\pi + \frac{\pi}{1}\}$$

$$a) y = \frac{x+1}{|x+1| - |x+1|}$$

$$\Rightarrow |x+1| \neq |x+1| \Rightarrow x^2 + x + 1 \neq x^2 + x + 1$$

$$(x+1)^2 \neq (x+1)^2 \Rightarrow x^2 - x - 1 \neq 0$$

$$\Rightarrow x^2 - x - 1 \neq 0 \Rightarrow x = \frac{1 \pm \sqrt{5}}{2}$$

$$b) y = \sqrt{|x+1| - |x+1|} \rightarrow x = \frac{1}{2} - \frac{1}{2} \rightarrow \frac{1}{2} - \frac{1}{2}$$

$$\Rightarrow D_f = (-\infty, \frac{1}{2}] \cup [\frac{1}{2}, +\infty)$$

$$f(x) = \sqrt{\log_{\frac{1}{2}}(x-1)}$$

$$\Rightarrow x-1 > 0 \Rightarrow x > \frac{1}{2}$$

$$I \cup II \Rightarrow D_f = (\frac{1}{2}, 3]$$

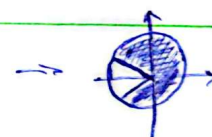
$$\log_{\frac{1}{2}}(x-1) \geq 0 \Rightarrow x-1 \leq 1 \Rightarrow x \leq 2$$

$$\Rightarrow x-1 \leq 1 \Rightarrow x \leq 2$$

$$D_f = (\frac{1}{2}, 2]$$

$$a) y = \log(x \cos x + 1)$$

$$\Rightarrow x \cos x > -1 \Rightarrow \cos x > -\frac{1}{x}$$



$$\Rightarrow D_f = (2K\pi - \frac{\pi}{2}, 2K\pi + \frac{\pi}{2})$$

$$b) \sqrt{\log_{\frac{x-1}{x+1}}}$$

$$I \rightarrow x \neq -1$$

$$II \rightarrow \frac{x-1}{x+1} > 0 \Rightarrow \frac{-1}{-1} < \frac{1}{1}$$

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

$$\log_{\frac{x-1}{x+1}} \geq 0 \Rightarrow \frac{x-1}{x+1} \geq 1 \rightarrow x > -1$$

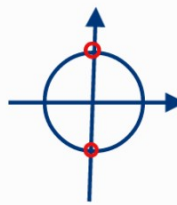
3- ب) $\frac{(n^2-1)(n^2-n^2)}{(n^2-1)} \geq 0 \rightarrow \frac{(n-1)(n+1)(n^2)(n-1)}{(n-1)(n^2+n+1)} \geq 0$ 

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

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

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

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

5- الف) $y = \frac{\sin^2 n - 1}{\cos n} \rightarrow \cos n \neq 0 \rightarrow$  $\rightarrow D_f = \mathbb{R} - \{kn + \frac{\pi}{2}\}$

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

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

$\log_a \log_a^{n-1} \geq 0$ من بابي هدا
حيت مبدئ
مستعد! $\rightarrow \log_a^{n-1} \leq 4a \rightarrow \log_a^{n-1} \leq 1 \rightarrow n-1 \leq 4 \rightarrow n \leq 5$

$\hookrightarrow D_f = (1, 5]$

10- ب) $\frac{n-1}{n+1} > 0 \rightarrow n > 1 \text{ و } n < -1$

$\log_{\frac{n+1}{n-1}} \geq 0 \rightarrow \frac{n-1}{n+1} \geq 1 \rightarrow \frac{n-1}{n+1} \geq 1 \rightarrow \frac{n-1}{n+1} - 1 \geq 0 \rightarrow \frac{n-1-n-1}{n+1} \geq 0 \rightarrow \frac{-2}{n+1} \geq 0$

$n+1 < 0 \rightarrow n < -1 \rightarrow D_f = (-\infty, -1)$