

27 $1 - (-1)^2$ ✓

نخرج به ازای همه مقادیر صحیح تعریف می شود و بی صورت

$\varepsilon - x^2 \geq 0 \Rightarrow \varepsilon \geq x^2 \Rightarrow -\sqrt{\varepsilon} \leq x \leq \sqrt{\varepsilon} \Rightarrow x \in \{-\sqrt{\varepsilon}, -1, 0, 1, \sqrt{\varepsilon}\} \rightarrow$ نتیجہ

الف) $x^3 + 3x^2 \geq 0 \Rightarrow x^2(x+3) \geq 0 \Rightarrow \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix} \geq 0, -3$

$$\Rightarrow Df_2 \in [-\infty, +\infty)$$

$$\therefore \frac{(u^r - 1)(u^r - ru^r)}{(u^r - 1)} \geq 0 \Rightarrow \frac{(u+1)(u-1)(u-r)(u^r)}{(u-1)(u^r + u + 1)}$$

دالة منفی

$$f(x) = \begin{cases} -1 & x < 0 \\ 0 & x = 0 \\ 1 & x > 0 \end{cases}$$

2) $f(x) = [-\infty, -1] \cup \{0\} \cup [1, +\infty)$

الف) $|x-2| - 5 \geq 0 \Rightarrow |x-2| \geq 5 \Rightarrow x-2 \geq 5, x-2 \leq -5$

2) $-1 > \kappa, \kappa > \delta \Rightarrow D_f \subset (-\infty, -1] \cup [\delta, +\infty)$

ii) $f - |r - x| \geq 0 \Rightarrow f \geq |r - x| \Rightarrow -f \leq r - x \leq f$

2) $-9 \leq -x \leq 9 \Rightarrow -9 \leq x \leq 9 \Rightarrow \Pi_f \subset [-9, 9]$

$$-6 \quad \text{عملاً درست} \rightarrow \text{بازای } x \text{ شقی} \quad 1 > |x| \quad \Rightarrow \quad 0 < |x| < 1$$

$$\rightarrow \text{بازای } x < 0 \quad 1 > x$$

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

(بجایید چندرشته بستره خطوط بنویسیم و توضیح بده)

$$-7 \quad \text{ب) } 3 - |x-8| \geq 0 \Rightarrow |x-8| \leq 3 \Rightarrow 2 \leq x \leq 11$$

$$\sqrt{3 - |x-8|} - 1 \neq 0 \Rightarrow \sqrt{3 - |x-8|} \neq 1 \Rightarrow 3 - |x-8| \neq 1 \Rightarrow x \neq 7, 9$$

$$\Rightarrow D_f = \mathbb{R} - \{7, 9\}$$

$$-8 \quad \text{الف) } \cos x \neq 0 \Rightarrow x \neq k\pi + \frac{\pi}{2} \Rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$$

$$\text{ب) } \cos x - 1 \neq 0 \Rightarrow \cos x \neq 1 \Rightarrow x \neq \{2k\pi, \pi, 2k\pi + 2\pi\}$$

$$\Rightarrow D_f = \mathbb{R} - \{2k\pi, \pi\}$$

$$-9 \quad \text{الف) } |2x+1| \neq |x+5| \Rightarrow 2x+1 \neq x+5 \Rightarrow x \neq 4$$

$$, 2x+1 \neq -x-5 \Rightarrow x \neq -\frac{6}{3} \Rightarrow D_f = \mathbb{R} - \{4, -2\}$$

$$\text{ب) } |2x+1| - |x+5| \geq 0 \Rightarrow |2x+1| \geq |x+5|$$

$$\Rightarrow (2x+1)^2 \geq (x+5)^2 \Rightarrow 4x^2 + 4x + 1 \geq x^2 + 10x + 25 \Rightarrow 3x^2 - 6x - 24 \geq 0 \Rightarrow (x-4)(x+4) \geq 0$$

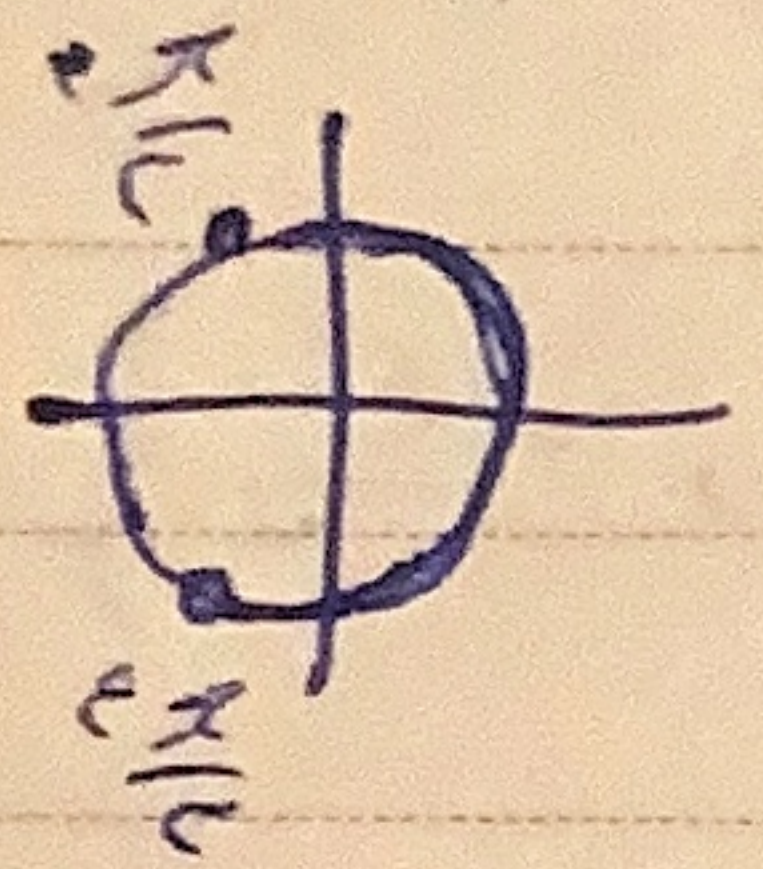
$$\Rightarrow \left\{ \frac{0}{3}, 2, -\frac{4}{3} \right\} \Rightarrow \frac{-\frac{4}{3} + 4}{+3 - 4} \Rightarrow D_f = \mathbb{R} - \left(-\frac{4}{3}, 2\right)$$

$$2x-1 > 0 \Rightarrow x > \frac{1}{2}, \log_2(2x-1) > 0 \Rightarrow 2x-1 > 1 \Rightarrow x > 1$$

$$, \log_{\frac{1}{2}} \log_2(2x-1) > 0 \Rightarrow \log_{\frac{1}{2}}(2x-1) \leq 1 \Rightarrow 2x-1 \leq 2 \Rightarrow x \leq \frac{3}{2}$$

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

الف) $r \cos \alpha + 1 > 0 \Rightarrow \cos \alpha > -\frac{1}{r}$



$\Rightarrow D_f = \left(rK\pi + \frac{\pi}{r}, rK\pi + \frac{\pi}{r} \right)$

ب) $\frac{x-1}{x+1} > 0 \Rightarrow \frac{-1}{+} \frac{1}{-} \Rightarrow x \in (-1, 1)$

ج) $\log \frac{x-1}{x+1} > 0 \Rightarrow \frac{x-1}{x+1} > 1 \Rightarrow \frac{x-1}{x+1} - 1 > 0 \Rightarrow \frac{-2}{x+1} > 0$

$\Rightarrow x < -1$ استرآن و عدد $D_f = (-\infty, -1)$