

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره کلاس:
۱۷/۲۵ دقت کن!

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

$$a=2 \leadsto f(x) = \sqrt{x(ax+b)} \rightarrow \frac{x}{-1+}$$

$$4+b=0 \Rightarrow b=-4 \quad \text{پ}$$

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2} \quad D_f = \mathbb{R}$$

$$x^2 - x(2-m^2) \leq 0$$

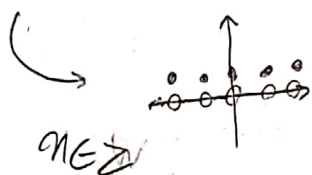
$$1 \leq 2-m^2$$

$$m^2 \leq 1 \Rightarrow -1 \leq m \leq 1$$

$$1 - (-1) = 2 \quad \text{پ}$$

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

$$4-x^2 \geq 0 \Rightarrow -2 \leq x \leq 2$$



$$D_f = \{-2, -1, 0, 1, 2\} \quad \text{پ}$$

$$y = \sqrt{x^3 + 2x^2} \quad x^3 + 2x^2 \geq 0 \quad \frac{x^2}{+1+} \frac{0^*}{+1+} \quad D_f = [-1, +\infty)$$

صورت مول: استیاده نویسی می چون نام درست حل کرده بودی خیره نامل خادم می از
 دندی بدی چینی دقت کن توانمان بنی بیخه نمی دهند ت

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

$$\frac{-1}{+1-} \frac{0^*}{-1-} \frac{1}{0} \frac{2}{+1+}$$

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

$$a) y = \sqrt{|x-2|-3}$$

$$x \geq 2 \rightarrow \sqrt{x-5} \rightarrow \frac{x}{-1+} \leadsto x \geq 5$$

$$x < 2 \rightarrow \sqrt{-x-1} \rightarrow \frac{-x}{+1-} \leadsto x \leq -1$$

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

$$b) y = \sqrt{4-|x-m|}$$

$$x \geq 2 \rightarrow \sqrt{4-x} \leadsto x \leq 4$$

$$x < 2 \rightarrow \sqrt{4+x} \leadsto x \geq -4$$

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

$y = \sqrt{1 - |x|}$
 $x > 0 \rightarrow \sqrt{1 - x} \rightarrow \frac{1}{1+x} \rightarrow$
 $x < 0 \rightarrow \sqrt{1 + x} \rightarrow$ هر دو مثبتند

 $D_f = (-\infty, 1]$

صورت سوال را اشتباه نرست! (1, 25)

$\sqrt{3 - \ln |x|} - 1$
 $3 - \ln |x| \geq 0$
 $\hookrightarrow \sqrt{3 - \ln |x|} - 1 \neq 0$

$y = \frac{1}{\sqrt{3 - \ln |x|} - 1}$
 $3 - \ln |x| - 1 \neq 0$
 $x > 0 \rightarrow -x + 3 \rightarrow \frac{3}{1+x}$
 $x < 0 \rightarrow +x - 3 \rightarrow \frac{-3}{-1+x}$

 $D_f = (0, 3)$

$y = \frac{\sin^2 x - 1}{\cos x}$
 $\cos x \neq 0 \rightarrow D_f = \mathbb{R} - \{k\pi\}$
 $\cos x = 0, x = k\pi + \frac{\pi}{2}$

$x = k\pi \rightarrow \sin x = 0$
(1, 15)

$y = \frac{\cos x}{x \cos x - 1}$
 $\cos x \neq \frac{1}{x} \Rightarrow D_f = \mathbb{R} - \left\{k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\right\}$

$y = \frac{x+c}{|x+c| - |x+c|}$
 $x > c \rightarrow \frac{x+c}{x-c} \rightarrow x = c$
 $-c < x < c \rightarrow \frac{x+c}{c-x} \rightarrow x = -c$
 $x < -c \rightarrow \frac{x+c}{x-c} \rightarrow x = c$

$x \geq -c \rightarrow x+c = x+c \rightarrow x = -c$
 $x \leq c \rightarrow x+c = -x-c \rightarrow x = -c$

$y = \sqrt{|x+c| - |x+c|}$
 $|x+c| > |x+c|$
 $\Rightarrow (x+c)^2 > (x+c)^2 \Rightarrow 0 > 0$

$D_f = \mathbb{R} - \{c\}$ (1, 15)

$f(x) = \sqrt{\log_2^{(x-1)}}$
 $x-1 > 0 \Rightarrow x > 1$

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

$\log_2^{(x-1)} \geq 0 \Rightarrow x-1 \leq 1 \Rightarrow x \leq 2$

وقت مبیین دو حالت حسب نامعادله عوض می شود (مبقتی گذشت)

$D_f = [2, +\infty)$ (1)

$y = \log_2(x \cos x + 1)$
 $x \cos x + 1 > 0 \Rightarrow \cos x > -\frac{1}{x}$

$y = \sqrt{\log_2 \frac{x-1}{x+1}}$
 $\frac{x-1}{x+1} > 0$
 $\frac{x-1}{x+1} > 0 \Rightarrow \frac{x-1}{x+1} > 0$

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

$D_f = (-\infty, +\infty)$ (1, 2)

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

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

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

$$5- \text{الف}) \quad y = \frac{\sin^2 n - 1}{\cos n} \rightarrow \cos n \neq 0 \rightarrow \text{Unit Circle Diagram} \rightarrow D_f = \mathbb{R} - \left\{k\pi + \frac{\pi}{2}\right\}$$

$$8- \text{الف}) \quad |n+1| - |n+3| = 0 \rightarrow |n+1| = |n+3| \xrightarrow{\text{نقل}} n^2 + 2n + 1 = n^2 + 6n + 9$$

$$\rightarrow n^2 - 4n - 8 = 0 \rightarrow n^2 - 2n - 24 = 0 \rightarrow (n-6)(n+4) = 0 \quad \begin{matrix} n = \frac{4}{2} = 2 \\ n = -\frac{-4}{2} = -2 \end{matrix} \rightarrow D_f = \mathbb{R} - \left\{-\frac{4}{2}, 2\right\}$$

$$9) \quad \log_a \log_a^{n-1} \rightarrow n-1 > 0 \rightarrow n > \frac{1}{2}$$

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

$$\log_a \log_a^{n-1} \geq 0 \xrightarrow{\text{منابع هـ و ا حبت عوض ماسود!}} \log_a^{n-1} \leq \frac{1}{2} \rightarrow \log_a^{n-1} \leq 1 \rightarrow n-1 \leq 2 \rightarrow n \leq 3$$

$$\hookrightarrow D_f = (1, 3]$$

$$10- \text{الف}) \quad 2 \cos n + 1 > 0 \rightarrow \cos n > -\frac{1}{2} \rightarrow \text{Unit Circle Diagram} \rightarrow D_f = \left(k\pi - \frac{\pi}{3}, k\pi + \frac{\pi}{3}\right)$$