

نام و نام خانوادگی آدرس پاسنامه تشریحی تکلیف شماره کلاس ~~پیشینه~~

$y = \frac{\sin x - 2}{2 \cos x + 1}$ $2 \cos x + 1 \neq 0$ $\cos x \neq -\frac{1}{2}$ $\cos x \neq -\frac{1}{2}$ $D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{2\pi}{3} \right\}$	(الف)	$y = \frac{\sin x + 3}{\cos x - 1}$ $\cos x - 1 \neq 0$ $\cos x \neq 1$ $D_f = \mathbb{R} - \{ 2k\pi \}$	(ب)	۱
$y = \frac{2 \sin x + 1}{\tan x + 1}$ $\tan x + 1 \neq 0$ $\tan x \neq -1$ $D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right\}$	(الف)	$y = \frac{\cos x + 1}{\cot x - 1}$ $\cot x - 1 \neq 0$ $\cot x \neq 1$ $D_f = \{ n\pi, n\pi + \frac{\pi}{2} \}$	(ب)	۲
$\sin y = x^2 - 2$ $-1 \leq x^2 - 2 \leq 1$ $1 \leq x^2 \leq 3$ $\downarrow$ $\pm 1 \leq x \leq \pm \sqrt{3}$ $D_f = [-\sqrt{3}, -1] \cup [1, \sqrt{3}]$	(الف)	$y = \arccos(\sqrt{x} - 3)$ $-1 \leq \sqrt{x} - 3 \leq 1$ $2 \leq \sqrt{x} \leq 4$ $4 \leq x \leq 16$ $D_f = [4, 16]$	(ب)	۳
$\cos y = x - 3$ $-1 \leq x - 3 \leq 1$ $2 \leq x \leq 4$ $D_f = [-4, -2] \cup [2, 4]$	(الف)	$y = \arcsin(x^2 + 3x + 1)$ $-1 \leq x^2 + 3x + 1 \leq 1$ $-1 \leq x^2 + 3x + 1 \rightarrow 0 \leq x^2 + 3x + 1 \rightarrow 0 \leq (x+1)(x+2)$ $x^2 + 3x + 1 \leq 1 \rightarrow x^2 + 3x \leq 0 \rightarrow x(x+3) \leq 0$ $x \geq -1, x \leq -2$ $-3 \leq x \leq 0$ $D_f = [-3, -2] \cup [-1, 0]$	(ب)	۴
$y = \log_{\frac{1}{2}}(x^2 - 4)$ $x^2 - 4 > 0 \rightarrow x^2 > 4 \rightarrow x > 2, x < -2$ $D_f = (-\infty, -2) \cup (2, +\infty)$	(الف)	$\log_{\frac{1}{2}}(2 - x)$ $2 - x > 0$ $2 > x $ $-2 < x < 2$ $D_f = (-2, 2)$	(ب)	۵

(الف) $y = \log_{x-3}^{a-x}$ $x-3 > 0 \rightarrow x > 3$ $x-3 \neq 1 \rightarrow x \neq 4$ $a-x > 0 \rightarrow a > x$ $D_f = (3, 4) \cup (4, a)$	(ب) $y = \log_{x+3}^{x^2-1}$ $x+3 > 0 \rightarrow x > -3$ $x+3 \neq 1 \rightarrow x \neq -2$ $x^2-1 > 0 \rightarrow x^2 > 1 \rightarrow x > 1 \vee x < -1$ $D_f = (-3, -2) \cup (-2, -1) \cup (1, +\infty)$	6
(الف) $y = \log \frac{x^2-5x+3}{x-3}$ $\frac{x^2-5x+3}{x-3} > 0 \quad x^2-5x+3 = (x-1)(x-3)$ $x \neq 3$ $x-1 > 0 \rightarrow x > 1$ $D_f = (1, +\infty) - \{3\}$	(ب) $y = \log \frac{x+3}{x-4}$ $x+3 > 0 \rightarrow x > -3$ $x+3 \neq 1 \rightarrow x \neq -2$ $\frac{x+3}{x-4} > 0 \rightarrow x < -3 \vee x > 4$ $D_f = (-4, -2) \cup (-2, -3) \cup (4, +\infty)$	7
(الف) $y = \sqrt{3 - \log_3(x-2)}$ $3 - \log_3(x-2) \geq 0 \rightarrow \log_3(x-2) \leq 3 \rightarrow x-2 \leq 3^3$ $x-2 > 0 \rightarrow x > 2$ $x \leq 10$ $D_f = (2, 10]$	(ب) $y = \log(r \log_x^2 - 1)$ $r \log_x^2 - 1 > 0 \rightarrow r \log_x^2 > 1 \rightarrow \log_x^2 > \frac{1}{r}$ $x > \sqrt[r]{\frac{1}{r}} \rightarrow x > \sqrt{r}$ $D_f = (\sqrt{r}, +\infty)$	8
(الف) $y = \frac{3}{x^2+1}$ $x^2+1 \neq 0$ $x^2 \neq -1$ $D_f = \mathbb{R}$	(ب) $y = \frac{3}{x^2-1}$ $x^2-1 \neq 0$ $x^2 \neq 1$ $x \neq 0$ $D_f = \mathbb{R} - \{0\}$	
(ج) $y = \frac{3}{x^2-2}$ $x^2-2 \neq 0$ $x^2 \neq 2$ $x \neq \frac{1}{\sqrt{2}}$ $D_f = \mathbb{R} - \{\frac{1}{\sqrt{2}}\}$	(د) $y = \frac{3}{x^2-3}$ $x^2-3 \neq 0$ $x^2 \neq 3$ $x \neq \log_3^{\frac{3}{r}}$ $D_f = \mathbb{R} - \{\log_3^{\frac{3}{r}}\}$	9
(الف) $y = (x+1)!$ $x+1 \in \mathbb{W}$ $x + \frac{1}{x} \in \frac{\mathbb{W}}{x}$ $x \in \frac{\mathbb{W}+1}{x} \quad x \in \frac{\mathbb{W}-1}{x}$ $D_f = \left\{ x \mid x = \frac{k+1}{x}, k \in \mathbb{W} \right\}$	(ب) $y = \left(\frac{rx-2}{rx-a} \right)!$ $\frac{rx-2}{rx-a} \in \mathbb{W} \rightarrow rx-2 = r\mathbb{W}x - a\mathbb{W}$ $rx - r\mathbb{W}x = 2 - a\mathbb{W} \Rightarrow x = \frac{2 - a\mathbb{W}}{r - r\mathbb{W}}$ $\Rightarrow D_f = \left\{ x \mid x = \frac{a\mathbb{W}-2}{rx-r}, k \in \mathbb{W} \right\}$	10