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نام و نام خانوادگی احمد اصباحی پاسخنامه تشریحی تکلیف شماره ۵ ... کلاس ... چهارم دبیرستان ...	
دامدنی توابع زیر را برست آورید $y = \frac{\sin x - 2}{2 \cos x + 1}$ $2 \cos x + 1 = 0 \Rightarrow \cos x = -\frac{1}{2} \Rightarrow x = \pm \frac{2\pi}{3} + 2k\pi, k \in \mathbb{Z}$ $D_f = R_1 \left\{ x/x = \frac{2\pi}{3} + 2k\pi, x = \frac{4\pi}{3} + 2k\pi, k \in \mathbb{Z} \right\}$	۱
$y = \frac{\sin x + 3}{\cos x - 1}$ $\cos x - 1 = 0 \Rightarrow \cos x = 1 \Rightarrow x = 2k\pi, k \in \mathbb{Z}$ $D_f = R_1 \{ 2k\pi, k \in \mathbb{Z} \}$	
دامدنی توابع زیر حساب کنید (ب) $y = \frac{\cos x + 1}{\tan x - 1}$ $\sin x = 0 \Rightarrow x = \frac{\pi}{2} + k\pi = \frac{\pi}{2} + \tan x$ $\tan x = -1 \Rightarrow x = -\frac{\pi}{4}$ $D_f = R_1 \{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \}$ (ب) $D_f = R_1 \{ k\pi, k\pi + \frac{\pi}{2} \}$	۲
(الف) $\sin y = x^2 - 2$ $-1 \leq \sin y \leq 1$ $D_f = x \in R / 1 \leq x^2 \leq 3 \Rightarrow [\sqrt{3}, 1] \cup [1, \sqrt{3}]$ (ب) $y = \arccos(\sqrt{x} - 3)$ $x \geq 0 \rightarrow -1 \leq \sqrt{x} - 3 \leq 1 \rightarrow x = 4$ $D_f = [4, 14]$	۳
(الف) $\cos y = x - 3$ $-1 \leq x - 3 \leq 1 \Rightarrow 2 \leq x \leq 4 \Rightarrow x \in [2, 4]$ $D_f = [-4, -2] \cup [2, 4]$ (ب) $y = \arcsin(x^2 + 3x + 1)$ $-1 \leq x^2 + 3x + 1 \leq 1 \rightarrow x \in [-3, 0]$ $D_f = [-3, -2] \cup [-1, 0]$	۴
$y = \log_3 \frac{x^2 - 4}{3}$ $x^2 - 4 = 0 \Rightarrow x^2 > 4 \Rightarrow x > 2 \vee x < -2$ $D_f = (-\infty, -2) \cup (2, +\infty)$ $y = \log_2 \frac{x - x }{2}$ $2 - x > 0 \Rightarrow x < 2 \Rightarrow -2 < x < 2$ $D_f = (-2, 2)$	۵

(الف) $y = \log_{x-3} x-5$ $5 > x \Rightarrow 0 < x-5$
 $3 < x \Rightarrow 0 < x-3$

(1, 5)

$D = (-3, -2) \cup (-2, -1) \cup (0, \infty)$
 $f-x \Rightarrow 1-3-x$
 $f=x \Rightarrow x > x > 3$

(ب) $y = \log_{x+3} x^2-1$
 $D = (2, 4) \cup (4, 5)$

(الف) $y = \log_{x-3} \frac{x^2-4x+3}{x-3}$ $(x^2-1)(x-3) = x \neq 3 \Rightarrow x-1 > 0 \Rightarrow x > 1$

$D_f = (1, +\infty) - \{3\}$
 $(1, 3) \cup (3, 5)$

(ب) $y = \log_{x+5} \frac{x+3}{x-2}$ $x+5 > 0 \Rightarrow x > -5 \Rightarrow x \neq -5 = 1$
 $D_f = \{x-5, -3\} \cup (2, \infty) - \{x=2\}$

(الف) $y = \sqrt{3 - \log(x-1)}$ $x-1 > 0 \Rightarrow x > 1$, $x-1 \leq 1 \Rightarrow x \leq 2 \Rightarrow$
 $D_f = (1, 2]$

(ب) $y = \log(x \log_{x^2} x - 1)$ $\log_{x^2} x > 0$ $D_f = (\sqrt{2}, +\infty)$
 $\log_{x^2} x > 1 \rightarrow \log_{x^2} x > \frac{1}{x} \rightarrow x > \sqrt{x}$

$y = \frac{x}{x^2+1}$ $\mathbb{R}$

$\frac{x}{x^2-2}$ $\mathbb{R} - \{\frac{1}{\sqrt{2}}\}$

$y = \frac{x}{x^2-1}$ $\mathbb{R} - \{0\}$

$\frac{x}{x^2-3}$ $\mathbb{R} - \{\log_{\frac{1}{4}} x\}$ (a)

$y = (x+1)!$ $D_f = \{n / n = \frac{k-1}{x}, k \in \mathbb{N}\}$

$y = (\frac{x^2-2}{x^2-5})!$ $D_f = \{n / n = \frac{x^2-2}{x^2-5}, k \in \mathbb{N}\}$ (a)