

کرده: دهم پنجمین

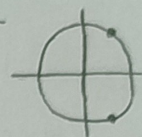
۱۱ بافت بنویس!

نام و نام خانوادگی: تاشا ترک تریجی سری: ۵۵

دقت!

الف) $y = \frac{\sin x - 2}{2 \cos x + 1} \Rightarrow 2 \cos x + 1 \neq 0 \Rightarrow 2 \cos x \neq -1 \Rightarrow \cos x \neq -\frac{1}{2}$

$D_f = \mathbb{R} - \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi - \frac{2\pi}{3} \right\}$



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ب) $y = \frac{\sin x + 3}{\cos x - 1} \Rightarrow \cos x - 1 \neq 0 \Rightarrow \cos x \neq 1$

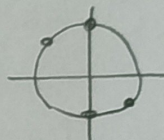
$D_f = \mathbb{R} - \{2k\pi\}$



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الف) $y = \frac{2 \sin x + 1}{\tan x + 1} \Rightarrow \tan x + 1 \neq 0 \Rightarrow \frac{\sin x}{\cos x} + 1 \neq 0 \Rightarrow \frac{\sin x}{\cos x} \neq -1, \cos x \neq 0$

$D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4} \right\}$



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ب) $y = \frac{\cos x + 1}{\cot x - 1} \Rightarrow \cot x - 1 \neq 0 \Rightarrow \frac{\cos x}{\sin x} - 1 \neq 0 \Rightarrow \frac{\cos x}{\sin x} \neq 1, \sin x \neq 0$

$D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4} \right\}$



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الف) $\sin y = x^2 - 2 \Rightarrow -1 \leq \sin y \leq 1 \Rightarrow -1 \leq x^2 - 2 \leq 1 \Rightarrow 1 \leq x^2 \Rightarrow x \geq 1 \text{ یا } x \leq -1$

$x^2 - 2 \leq 1 \Rightarrow x^2 \leq 3 \Rightarrow x \leq \sqrt{3}, x \geq -\sqrt{3} \quad D_f = [-\sqrt{3}, -1] \cup [1, \sqrt{3}]$

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$\Rightarrow y = \arccos(\sqrt{x} - 3) \Rightarrow -1 \leq \sqrt{x} - 3 \leq 1 \Rightarrow 2 \leq \sqrt{x} \Rightarrow 4 \leq x, \sqrt{x} \leq 4 \Rightarrow x \leq 16$

$D_f = [4, 16]$

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الف) $\cos y = |x| - 3 \Rightarrow -1 \leq |x| - 3 \leq 1 \Rightarrow 2 \leq |x| \Rightarrow x \geq 2, x \leq -2$

$|x| \leq 4 \Rightarrow -4 \leq x \leq 4 \quad D_f = [-4, -2] \cup [2, 4]$

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ب) $y = \arcsin(x^2 + 3x + 1) \Rightarrow -1 \leq x^2 + 3x + 1 \leq 1 \Rightarrow x^2 + 3x \leq 0 \Rightarrow x(x+3) \leq 0$
 $\Rightarrow x = [0, -3]$ و $x^2 + 3x + 2 \geq 0 \Rightarrow (x+1)(x+2) \geq 0 \Rightarrow x \leq -2 \text{ یا } x \geq -1$

$D_f = [-3, -2] \cup [-1, 0]$

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الف) $\log_{\frac{1}{3}} x^2 - 4 \Rightarrow x^2 - 4 > 0 \Rightarrow x^2 > 4 \Rightarrow x > 2 \text{ یا } x < -2 \quad D_f = (2, +\infty) \cup (-\infty, -2)$

$x^2 - 4 > 0 \Rightarrow x > 2 \text{ یا } x < -2$

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ب) $y = \log_{\frac{1}{2}} (2 - |x|) \Rightarrow 2 - |x| > 0 \Rightarrow 2 > |x| \Rightarrow -2 < x < 2 \quad D_f = (-2, 2)$

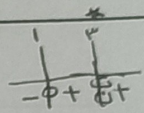
الف) $y = \log_{x-3}^{x-2} = x-2 > 0 \Rightarrow x > 2, x-3 > 0 \Rightarrow x > 3, x-3 \neq 1 \Rightarrow x \neq 4$

$D_f = (3, \infty) - \{4\}$

ب) $\log_{x+3}^{x^2-1} = x^2-1 > 0 \Rightarrow x^2 > 1 \Rightarrow x > 1, x+3 > 0 \Rightarrow x > -3, x+3 \neq 1 \Rightarrow x \neq -2$

$D_f = (1, +\infty) \cup (-3, +\infty) - \{-2\}$

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

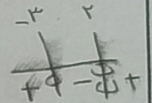


$D_f = (1, +\infty) - \{3\}$

لا يمكن كرايتن عاصمتين!

$\frac{-4-2}{+1-1} \quad x > 2, x < 3$

ب) $y = \log_{x+3} \frac{x+3}{x-2} \Rightarrow \frac{x+3}{x-2} > 0 \Rightarrow x > 2, x-2 \neq 0 \Rightarrow x \neq 2$



$D_f = (-3, +\infty) \cup (2, +\infty) - \{2\}$

الف) $y = \sqrt{3 - \log_r^{(x-2)}} \Rightarrow x-2 > 0 \Rightarrow x > 2, 3 - \log_r^{(x-2)} \geq 0 \Rightarrow \log_r^{(x-2)} \leq 3 \Rightarrow$

$x-2 \leq 1 \Rightarrow x \leq 1. D_f = (2, 1.0]$

ب) $y = \log(2 \log_r^x - 1) \Rightarrow x > 0, 2 \log_r^x - 1 > 0 \Rightarrow 2 \log_r^x > 1 \Rightarrow$

$D_f = \mathbb{R}^+ \cap (x, +\infty)$

الف) $y = \frac{r}{r^x+1} \Rightarrow r^x+1 \neq 0 \Rightarrow r^x \neq -1 \checkmark D_f = \mathbb{R}$

ب) $y = \frac{r}{r^x-1} \Rightarrow r^x-1 \neq 0 \Rightarrow r^x \neq 1 \Rightarrow x \neq 0 D_f = \mathbb{R} - \{0\}$

ج) $y = \frac{r}{r^x-2} \Rightarrow r^x-2 \neq 0 \Rightarrow r^x \neq 2 \Rightarrow x \neq \log_r^2 \Rightarrow D_f = \mathbb{R} - \{\log_r^2\}$

د) $y = \frac{r}{r^x-3} \Rightarrow r^x-3 \neq 0 \Rightarrow r^x \neq 3 \Rightarrow x \neq \log_r^3 \Rightarrow D_f = \mathbb{R} - \{\log_r^3\}$

الف) $y = (rx+1)! \Rightarrow rx+1 \in \mathbb{W} \Rightarrow rx \in \mathbb{W}-1 \Rightarrow x \in \frac{\mathbb{W}-1}{r}$

$D_f = \{x \mid x = \frac{k-1}{r}, k \in \mathbb{W}\}$

ب) $y = \left(\frac{rx-2}{rx-3}\right)! \Rightarrow \frac{rx-2}{rx-3} \in \mathbb{W} \Rightarrow rx-2 = rx\mathbb{W} - 3\mathbb{W} \Rightarrow rx-2 = -3\mathbb{W}+2$

$\Rightarrow x = \frac{-3\mathbb{W}+2}{r-2} \Rightarrow D_f = \{x \mid x = \frac{-3k+2}{r-2}, k \in \mathbb{W}\}$