

Date:

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الحل، سري

$$\text{الف) } y = \frac{\sin x - 1}{\cos x + 1}$$

$$\cos x + 1 \neq 0$$

$$\cos x \neq -1$$

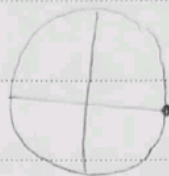


$$D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{1} \right\}$$

$$\text{ب) } y = \frac{\sin x + 1}{\cos x - 1}$$

$$\cos x - 1 \neq 0$$

$$\cos x \neq 1$$

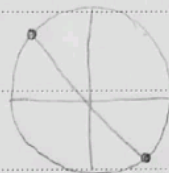


$$D_f = \mathbb{R} - \{ 2k\pi \}$$

$$\text{الف) } y = \frac{\tan x + 1}{\tan x + 1}$$

$$\tan x + 1 \neq 0$$

$$\tan x \neq -1$$



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

$$\text{ب) } y = \frac{\cot x + 1}{\cot x - 1}$$

$$\cot x - 1 \neq 0$$

$$\cot x \neq 1$$



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

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

$$D_f = [-\sqrt{2}, -1] \cup [1, \sqrt{2}]$$

$$1 \leq x^2 \leq 2$$

$$1 \leq x \leq \sqrt{2}$$

$$-1 \geq x \geq -\sqrt{2}$$

$$\text{ب) } y = \arcsin(\sqrt{x} - 1)$$

$$D_f = [0, 14]$$

$$x \geq 0 \quad -1 \leq \sqrt{x} - 1 \leq 1$$

$$0 \leq \sqrt{x} \leq 2$$

$$0 \leq x \leq 4$$

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تاريخ

الف) $\cos y = |x| - 2$

$-1 \leq |x| - 2 \leq 1$

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

$2 \leq |x| \leq 4$

$2 \leq x \leq 4$

$-2 \geq x \geq -4$

ب) $y = \arcsin(x^2 + 2x + 1)$

$-1 \leq x^2 + 2x + 1 \leq 1$

$(-\infty, -2] \cup [0, 1) \cup (2, \infty)$

$0 \leq x^2 + 2x + 2 \leq 2$

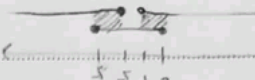
$0 \leq (x+1)(x+2) \leq 2$

$[-2, 0] \cup [2, \infty)$

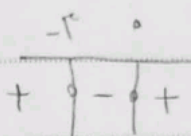
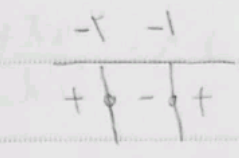
$x^2 + 2x \leq 0$

$x(x+2) \leq 0$

$D_f = [-2, 0] \cup [2, \infty)$



-2



الف) $y = \log_{x^2} x^2 - 2$

$x^2 > 0$

$D_f = (-\infty, -2) \cup (2, \infty)$

$x^2 > 2 \Rightarrow x < -2, x > 2$

$x^2 > 0, x \neq 1$

ب) $y = \log_{x^2} (x^2 - 2)$

$x^2 > 0$

$D_f = (-2, 2)$

$|x| < 2 \Rightarrow -2 < x < 2$

$x^2 > 0, x \neq 1$

الف) $y = \log_{x^2} (x^2 - x)$

$x^2 - x > 0$

$x > 1$

$x < 0$

$x > 2$

$x^2 \neq 1 \Rightarrow x \neq \pm 1$

$D_f = (x^2, \infty) - \{1\}$

$x^2 < x < \infty$

ب) $y = \log_{x^2} (x^2 - 1)$

$x^2 - 1 > 0$

$x > 1$

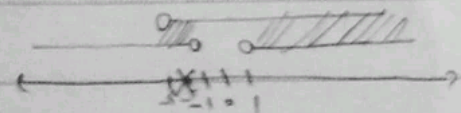
$x^2 > 1 \Rightarrow x > 1$

$x > -1$

$x^2 \neq 1, x \neq -2$

$D_f = (x^2, 1) - \{-2\} \cup (1, \infty)$

$x^2 < 1$



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مطهر شری

$$\text{الف) } y = \log \frac{x^2 - 5x + 2}{x - 2}$$

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

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

$$\frac{x-1}{x-2}$$

$$-\frac{1}{2} + \frac{1}{2} +$$

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$$\text{ب) } y = \log \frac{x+2}{x-2}$$

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

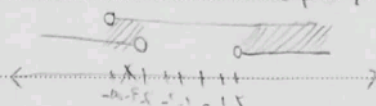
$$\frac{x+2}{x-2}$$

$$-\frac{2}{2} + \frac{2}{2} +$$

$$x > 2$$

$$(-\infty, -2) \cup (2, +\infty) \cap x > 2$$

$$x+2 \neq 1 \quad x \neq -1$$



$$\text{الف) } y = \sqrt{x} \log(x-5)$$

$$D_f = [5, 10]$$

$$x > 5$$

$$\log(x-5) < 0$$

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$$x > 5$$

$$x > 5$$

$$x-5 < 1$$

$$5 < x < 10$$

$$x < 10$$

$$\text{ب) } y = \log(r \log x - 1)$$

$$x > 0$$

$$r \log x - 1 > 0$$

$$x > 0$$

$$\log x > \frac{1}{r}$$

$$x > \frac{1}{r}$$

$$D_f = (\frac{1}{r}, +\infty)$$

$$\text{الف) } y = \frac{x}{x^2 - 1}$$

$$x^2 \neq 1$$

$$D_f = \mathbb{R}$$

$$\text{ب) } y = \frac{x}{x^2 - 1}$$

$$x^2 \neq 1$$

$$x \neq 0$$

, 1

$$D_f = \mathbb{R} - \{0\}$$

$$\text{ج) } y = \frac{x}{x^2 - 2}$$

$$x^2 \neq 2$$

$$x \neq \log_f x$$

$$D_f = \mathbb{R} - \{\log_f x\}$$

$$\text{د) } y = \frac{x}{x^2 - 2}$$

$$x^2 \neq 2$$

$$x \neq \log_f x$$

$$D_f = \mathbb{R} - \{\log_f x\}$$

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تاريخ، ص.

الف) $y = (x+1)!$ $x+1 \in \mathbb{N}$ $x \in \mathbb{N}-1$, ١.

$D_f = \{x | x = \frac{k-1}{f}, k \in \mathbb{N}\}$ $x \in \frac{\mathbb{N}-1}{f}$

ب) $y = \left(\frac{x-\tau}{\tau-\alpha} \right)!$ $\frac{x-\tau}{\tau-\alpha} \in \mathbb{N}$ $x-\tau \in \tau\mathbb{N}-\alpha\mathbb{N}$

$x-\tau \in -\alpha\mathbb{N}+\tau$

$D_f = \{x | x = \frac{\tau-\alpha k}{\tau-\tau k}, k \in \mathbb{N}\}$ $x \in \frac{-\alpha\mathbb{N}+\tau}{\tau-\tau\mathbb{N}}$