

شماره تکلیف: ۳

کلاس: دهم دفتر B

نام و نام خانوادگی: ساریسا این الریایا ۲۰ آفرین!

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الف) $y = \sqrt{2-x}$ $2-x \geq 0$ $x \leq 2$ $D_f = \{x | x \in \mathbb{R}, -1 \leq x \leq 2\}$ $\checkmark$ (۲)

ب) $y = \sqrt{x-2}$ $x-2 \geq 0$ $x \geq 2$ $D_f = \{x | x \in \mathbb{R}, 2 \leq x \leq 11\}$ $\checkmark$

الف) $y = \sqrt{x^2-4}$ $x^2-4 \geq 0$ $x^2 \geq 4$ $D_f = \{x | x \in \mathbb{R}, -2 \leq x \leq 2\}$ $\checkmark$ (۲)

ب) $y = \sqrt{3|x|-9}$ $3|x|-9 \geq 0$ $3|x| \geq 9$ $D_f = \mathbb{R} - (-3, 3)$ $\checkmark$

الف) $y = \sqrt[3]{\frac{|x|+1}{|x|-3}}$ $|x|-3 \neq 0$ $|x| \neq 3$ $D_f = \mathbb{R} - \{+3\}$ $\checkmark$ (۲)

ب) $y = \sqrt[3]{\frac{\sqrt{x}+1}{\sqrt{x}-3}}$ $x \geq 0$ $D_f = [0, +\infty) - \{9\}$ $\checkmark$

الف) $y = \frac{\sqrt{3-|x|}}{|x|+3}$ $|x|+3 \neq 0$ $|x| \neq -3$ $D_f = [-3, 3]$ $\checkmark$ (۲)

ب) $y = \frac{\sqrt{3-x^2}}{|x|-1}$ $\frac{\sqrt{(3-x)(3+x)}}{|x|-1}$ $|x|-1 \neq 0$ $|x| \neq 1$ $x \neq \pm 1$

$\frac{-2}{-1} + \frac{2}{1} = 0$ $D_f = [-2, 2] - \{\pm 1\}$ $\checkmark$

الف) $y = \frac{x+1}{\sqrt{x+|x|}}$ $x+|x| > 0$ $D_f = \mathbb{R}^+$ $\checkmark$ (۰, +∞) (۲)

ب) $y = \frac{1}{\sqrt{x|x|}}$ $x|x| > 0$ $D_f = \mathbb{R}^+$ $\checkmark$ (۰, +∞)

الف) $y = \sqrt{2-[x]}$ $2-[x] \geq 0$ $2 \geq [x]$ $D_f = (-\infty, 2)$ $\checkmark$ (۲)

ب) $y = \frac{1}{\sqrt{2-[x]}}$ $2-[x] > 0$ $2 > [x]$ $D_f = (-\infty, 2)$ $\checkmark$

الف) $y = \frac{1}{x[x]}$ $x[x] \neq 0$ $D_f = \mathbb{R} - [0, 1)$ $\checkmark$ (۲)

ب) $y = \frac{1}{\sqrt{-x[x]}}$ $-x[x] > 0$ $D_f = \emptyset$ $\checkmark$

Arman

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

$$D_f = \left[\frac{1}{r}, +\infty \right)$$

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الف) $y = \sqrt{\left[x - \frac{1}{r}\right] + \left[x + \frac{1}{r}\right]}$ $\left[x - \frac{1}{r}\right] + \left[x + \frac{1}{r}\right] \geq 0$ $\left[x - \frac{1}{r}\right] + \left[x + 1 - \frac{1}{r}\right]$

$\left[x - \frac{1}{r}\right] + \left[x - \frac{1}{r}\right] \geq -1$ $2\left[x - \frac{1}{r}\right] \geq -1$ $\left[x - \frac{1}{r}\right] \geq -\frac{1}{2}$ $x - \frac{1}{r} \geq 0$ $x \geq \frac{1}{r}$

ب) $y = \sqrt{\left[x - \frac{1}{r}\right] + \left[-x + \frac{1}{r}\right]}$ $= \sqrt{\left[x - \frac{1}{r}\right] + \left[-\left(x - \frac{1}{r}\right)\right]}$ $D_f = \left\{x \mid x = k + \frac{1}{r}, k \in \mathbb{Z}\right\}$

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الف) $y = \frac{1}{r \sin^2 x - 1}$

$r \sin^2 x - 1 \neq 0$

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

$r \sin^2 x \neq 1$

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

$\tan x + 1 \neq 0$

$\cot x$ $x \neq k\pi$

$\tan x \neq -1$

$\frac{\sin x}{\cos x} \neq -1$ $x \neq k\pi + \frac{\pi}{2}$

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$\frac{\sin x}{\cos x}$ $x \neq k\pi + \frac{\pi}{2}$

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

الف) $y = \sqrt{r \sin x - 1}$

$r \sin x - 1 \geq 0$

$\frac{r \sin x}{r} \geq \frac{1}{r}$ $\sin x \geq \frac{1}{r}$

$D_f = \left[k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4}\right]$

د

ب) $y = \sqrt{1 - r \cos x}$

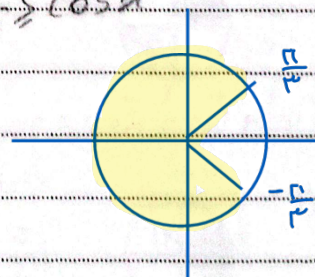
$1 - r \cos x \geq 0$

$\frac{1}{r} \geq \frac{r \cos x}{r}$

$\frac{1}{r} \geq \cos x$

$\cos x \leq \frac{1}{r}$

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



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