۱۹ آفرین!

آتنا عطایلو

(۱,۷۵) ع۱×

الف) دامنه $\sqrt{4-\sqrt{2-x}}$ = I $2-x\geq 0$ $2\geq x$ II $4-\sqrt{2-x}\geq 0$ $4\geq\sqrt{2-x}$ $16\geq 2-x$ $x\geq -14$ $D_f=[-14,2]$

ب) = $\sqrt{3-\sqrt{x-2}}$ = I $x-2\geq 0$ $x\geq 2$ II $3-\sqrt{x-2}\geq 0$ $3\geq\sqrt{x-2}$ $9\geq x-2$ $5\geq x$ $D_f=[2,5]$ 11

$x-2\leq 9$
$x\leq 11$

(۲) ع۲×

الف) دامنه $\sqrt{4-2x^2}$ = $4-2x^2\geq 0$ $4\geq 2x^2$ $2\geq x^2$ $-\sqrt{2}\leq x\leq\sqrt{2}$ $D_f=[-\sqrt{2},\sqrt{2}]$

ب) $y=\sqrt{3|x|-9}$ = $3|x|-9\geq 0$ $3|x|\geq 9$ $|x|\geq 3$ $D_f=(-\infty,-3]\cup[3,+\infty)$

$\begin{cases}x\geq 3\\ x\leq -3\end{cases}$ (۲)

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

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

ع۳۴

الف) دامنه $\sqrt{\frac{3-|x|}{|x|+2}}$ I $3-|x|\geq 0$ $3\geq|x|$ $-3\leq x\leq 3$ II $|x|+2\neq 0$ همواره مثبته $D_f=[-3,3]$

ع۳۴ (۲)

ب) $y=\frac{\sqrt{4-x^2}}{|x|-1}$ I $4-x^2\geq 0$ $4\geq x^2$ $2\geq x$ $-2\leq x\leq 2$ II $|x|-1\neq 0$ $|x|\neq 1$ $x\neq\pm 1$ $D_f=[-2,2]-\{1,-1\}$

(۲) ع۵×

الف) $y=\frac{x+1}{\sqrt{x+|x|}}$ $D_f=\mathbb{R}^+$

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

(۲) ع۶×

الف) $y=\sqrt{2-[x]}$ = $2-[x]\geq 0$ $2\geq[x]$ $3>x$ $D_f=(-\infty,3)$

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

(۱,۵) ع۷×

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

$[x]\neq 0\rightarrow D_y=\mathbb{R}-[0,1)$
$x\neq[0,1)$

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

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۸:× ②

الف) $y = \sqrt{[x - \frac{1}{3}] + [x + \frac{2}{3}]} = [x - \frac{1}{3}] + [x + \frac{2}{3}] \geq 0$ ، $+1$ ، $[x + \frac{2}{3}] + [x + \frac{2}{3}] \geq 1$

$2[x + \frac{2}{3}] \geq 1 \quad [x + \frac{2}{3}] \geq \frac{1}{2} \quad x + \frac{2}{3} \geq 1 \quad x \geq \frac{1}{3} \quad D_f = [\frac{1}{3}, +\infty)$

ب) $y = \sqrt{[x - \frac{1}{3}] + [-x + \frac{1}{3}]} \xrightarrow{if} \begin{cases} a \in Z & [a] + [-a] = 0 \\ a \notin Z & [a] + [-a] = -1 \end{cases} \rightarrow D_f \{x \mid x = k + \frac{1}{3}, k \in Z\}$

۹: ✓ (۱,۷۵)

الف) $y = \frac{1}{2\sin^2 x - 1} = \quad D_f = R - \{\frac{k\pi}{2} + \frac{\pi}{4}\}$

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

$2\sin^2 x \neq 1$

$\sin^2 x \neq \frac{1}{2} \quad \sin x \neq \sqrt{\frac{1}{2}} \Rightarrow \frac{\sqrt{1}}{\sqrt{2}} \Rightarrow \pm\frac{\sqrt{2}}{2}$

$D_f = R - \{k\pi - \frac{\pi}{4}, k\pi, k\pi - \frac{\pi}{4}\}$ [illegible]

ب) $y = \frac{\cot x + 1}{\tan + 1} = \quad \tan + 1 \neq 0 \quad \boxed{\tan \neq -1}$ ① [illegible]

۱۳۵ و ۳۱۵ ؛ $k\pi - \frac{\pi}{4}$

$\cot = \frac{x}{y}$ ، $\tan = \frac{y}{x}$ ۱۸۰ ؛ ۹۰ و ۲۷۰

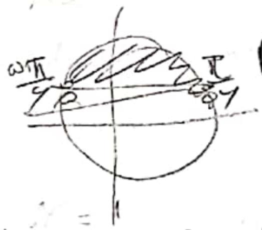
الف) $y = \sqrt{2\sin x - 1} = 2\sin x - 1 \geq 0$

$2\sin x \geq 1$

$\sin x \geq \frac{1}{2}$

$-1 \leq \sin x \leq 1$

$\frac{1}{2} \leq \sin x \leq 1$



$D_f = [2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}]$ ②

ب) $y = \sqrt{1 - 2\cos x} =$

$1 \geq 2\cos x$

$\frac{1}{2} \geq \cos x$

$-1 \leq \cos x \leq 1$

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

$D_f = [2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}]$