

نام و نام خانوادگی: پارسا حنیفی تکلیف شها ره: ۳ مقطع: یازدهم سپر B

الف) $y = \frac{x + \sqrt{x}}{\sqrt{x} + \sqrt{x} - 1x + \sqrt{x}} \xrightarrow{\sqrt{x} - 1 + \sqrt{x} = 0} \frac{\sqrt{x} + \sqrt{x} - 1x + \sqrt{x}}{-\sqrt{x} + \sqrt{x}}$ (1)

$D_f = \mathbb{R} - \left\{ -\sqrt{x}, \frac{1}{\sqrt{x}}, 1 \right\}$

$y = \frac{x + \sqrt{x}}{\sqrt{x} + \sqrt{x} - 1x + \sqrt{x}} \xrightarrow{\sqrt{x} - 1 + \sqrt{x} = 0} \frac{\sqrt{x} + \sqrt{x} - 1x + \sqrt{x}}{-\sqrt{x} + \sqrt{x}}$

$x < \frac{1}{\sqrt{x}}$

$y = \frac{x+r}{rx^r + qx^r + lx + r} \xrightarrow{r+l=q+r} \frac{rx^r + qx^r + lx + r}{rx^r + qx^r + lx + r} \frac{x+1}{rx^r + vx + r} \rightarrow x^r + vx + y \xrightarrow{1+y=v} x = \sqrt[r]{-\frac{1}{v}}$

الف) $y = \frac{x+3}{x^2-2x^2+2x-1} \rightarrow \frac{x^2-2x^2+2x-1}{x(x-1)(x-2)} = (x-1)(x^2-2x+1) \rightarrow D_f = \mathbb{R} - \{1\}$

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

$\Delta < 0$ هواره $\Delta < 0$

$D_f = \mathbb{R} - [-3, 1]$

$\frac{r}{x^r - \Delta |x-1| - rx + \Delta} \rightarrow \frac{x^r - \Delta + \Delta x - rx + 1}{x^r - \Delta x + \Delta - rx + \Delta} = \frac{x^r - rx + 1}{x^r - rx + \Delta} = \frac{x^r - rx + 1}{x^r - rx + 1} = 1$

الف) $\sqrt{[-x]-2} \rightarrow [-x]-2 \geq 0 \rightarrow [-x] \geq 2 \rightarrow -x \geq 2 \rightarrow x \leq -2$ (1)

ب) $y = \frac{\Delta x^2 + 4}{[x]^2 - 2[x] - 3} \rightarrow [x]^2 - 2[x] - 3 = ([x]-3)([x]+1) \Rightarrow [x] \neq \begin{matrix} 3 \\ -1 \end{matrix}$

$\Rightarrow x \neq \begin{matrix} [3, 4) \\ [-1, 0) \end{matrix} \Rightarrow D_f = \mathbb{R} - [3, 4) - [-1, 0)$

الف) $y = \sqrt{\left[x - \frac{1}{p}\right] + \left[x + \frac{p}{p}\right]} = \sqrt{\left[x + \frac{p}{p}\right] + \left[x + \frac{p}{p}\right] - 1} \rightarrow \left\lceil \left[x + \frac{p}{p}\right] - 1 \right\rceil \geq 0$
 $\Rightarrow \left[x + \frac{p}{p}\right] \geq \frac{1}{p} \rightarrow x \geq \frac{1}{p} \rightarrow D_f = \left[\frac{1}{p}, +\infty\right)$

ب) $y = \sqrt{\left[x - \frac{1}{p}\right] + \left[\frac{1}{p} - x\right]} \xrightarrow{(x - \frac{1}{p}) = t} [t] + [-t] \begin{cases} t \in \mathbb{Z} \rightarrow [t] + [-t] = 0 \\ t \notin \mathbb{Z} \rightarrow [t] + [-t] = -1 \end{cases}$
 $\Rightarrow x - \frac{1}{p} \in \mathbb{Z} \rightarrow x \in \mathbb{Z} + \frac{1}{p} \rightarrow D_f = \left\{x \mid x = k + \frac{1}{p}, k \in \mathbb{Z}\right\}$

الف) $y = \frac{\cot x + 1}{\tan x + 1} \rightarrow \tan x \neq -1 \Rightarrow \tan x \neq k\pi - \frac{\pi}{4}$
 $\Rightarrow D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{4}, \frac{k\pi}{2} \right\}$

الف) $y = \sqrt{r \sin x - 1} \rightarrow r \sin x - 1 \geq 0 \rightarrow \sin x \geq \frac{1}{r}$ - V

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

ب) $y = \sqrt{1 - r \cos x} \rightarrow 1 - r \cos x \geq 0 \rightarrow 1 \geq r \cos x$

$\Rightarrow \cos x \leq \frac{1}{r} \rightarrow Df = \left[2k\pi - \frac{\pi}{r}, 2k\pi + \frac{\pi}{r} \right]$

الف) $y = \arcsin(x^r + r^r x + 1) \rightarrow x^r + r^r x + 1 \geq -1 \rightarrow x^r + r^r x + 2 \geq 0$ - A

$Df = [-r, -1] \cup [-1, 0] \Leftrightarrow \begin{cases} x^r + r^r x + 1 \leq 1 \\ \Rightarrow x^r + r^r x \leq 0 \end{cases}$

ب) $\cos y = \sqrt{\omega - rx} \rightarrow \sqrt{\omega - rx} \leq 1 \rightarrow \omega - rx \leq 1 \rightarrow rx \geq \omega - 1 \rightarrow x \geq \frac{\omega - 1}{r}$
 $[0, +\infty) \quad \omega - rx \geq 0 \rightarrow x \leq \frac{\omega}{r} \rightarrow Df = \left[\frac{\omega - 1}{r}, \frac{\omega}{r} \right]$

الف) $y = \log_r(1 - \log_r^x) \rightarrow x > 0, 1 - \log_r^x > 0 \rightarrow \log_r^x < 1 \Rightarrow x < r$ - 9

$\Rightarrow Df = (0, r)$

ب) $y = \log_r(1 - \log_{\frac{1}{r}}^x) \rightarrow x > 0, 1 - \log_{\frac{1}{r}}^x > 0 \rightarrow \log_{\frac{1}{r}}^x < 1$

$\Rightarrow Df = \left(\frac{1}{r}, +\infty \right) \Rightarrow x > \frac{1}{r}$

الف) $y = \sqrt{r^{rx-x^r} - 1} \rightarrow r^{rx-x^r} - 1 > 0 \rightarrow r^{rx-x^r} > 1$ - 10

$\Rightarrow r^{rx-x^r} > r^0 \rightarrow rx - x^r < 0 \rightarrow (x-1)(x-r) < 0$

$\Rightarrow Df = [1, r]$

ب) $y = \left(\frac{rx + \omega}{rx + r} \right)! \rightarrow \frac{rx + \omega}{rx + r} \in \mathbb{W} \rightarrow x = -\frac{r\omega - \omega}{rx - r}$

$\Rightarrow Df = \left\{ x \mid x = \frac{\omega - rk}{rk - r}, k \in \mathbb{W} \right\}$