

مجموعه جوابی: $\emptyset$ یا $\{1, -1, \frac{1}{2}, -\frac{1}{2}\}$

الف) $y = \frac{x+c}{x^2+cx-1+cx} \Rightarrow x^2+cx-1+cx \neq 0$

$\Rightarrow (x+1)(x^2+cx-1) \Rightarrow x \neq 1, \frac{1}{2}, -\frac{1}{2} \Rightarrow D_f = R - \{1, \frac{1}{2}, -\frac{1}{2}\}$

ب) $y = \frac{cx}{x^2-9x^2+1+cx} \Rightarrow x^2-9x^2+1+cx \neq 0$

$\Rightarrow (x+1)(x^2+cx-1) \Rightarrow x \neq -1, \frac{1}{2}, -\frac{1}{2} \Rightarrow D_f = R - \{-1, \frac{1}{2}, -\frac{1}{2}\}$

ج) $y = \frac{cx}{x^2-2x^2+2x-1} \Rightarrow x^2-2x^2+2x-1 \neq 0$

$\Rightarrow (x-1)(x^2-x+1) \neq 0 \Rightarrow x \neq 1 \Rightarrow D_f = R - \{1\}$

د) $y = \sqrt{\frac{cx}{x^2-2x^2+2x-1}}$

$\Rightarrow \frac{-\infty}{+} \frac{-c}{0} \frac{1}{-} \frac{-\infty}{0} \Rightarrow D_f = (-\infty, -c] \cup (1, +\infty)$

$x^2-d/n-1-2nx+d \neq 0 \xrightarrow{x \geq 1} x^2-2nx+1 \neq 0 \Rightarrow x \neq 1, d$

$\left\{ \begin{array}{l} x < 1 \\ x^2+cx \neq 0 \end{array} \Rightarrow x \neq 0, -c \right\} \Rightarrow D_f = R - \{c, 0, d\}$

ه) $y = \sqrt{[-x]+x} \Rightarrow [-x] \geq x \Rightarrow x \leq -\frac{1}{2} \Rightarrow D_f = (-\infty, -\frac{1}{2}]$

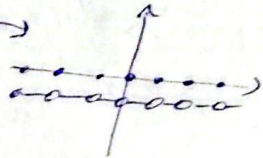
و) $\frac{dx^2+y}{[x]^2-2[x]-c} = y \Rightarrow [x]^2-2[x]-c \Rightarrow ([x]-c)([x]+1)$

$\Rightarrow [x] \neq c, x \neq [c, +\infty) \Rightarrow [x] \neq -1, x \neq (-\frac{1}{2}, -1] \Rightarrow D_f = (-\infty, -\frac{1}{2}] \cup (-1, +\infty)$

ز) $y = \sqrt{[n-\frac{1}{c}][n+\frac{1}{c}]} \Rightarrow [n-\frac{1}{c}] \geq 0, [n+\frac{1}{c}] \geq 0$

$\left\{ \begin{array}{l} \text{①} \rightarrow [\frac{1}{c}, +\infty) \\ \text{②} \rightarrow [-\frac{1}{c}, \frac{1}{c}] \rightarrow \emptyset \end{array} \right\} \Rightarrow D_f = [\frac{1}{c}, +\infty)$

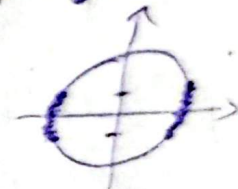
ح) $y = \sqrt{[x-\frac{1}{c}][\frac{1}{c}-x]} \Rightarrow [x-\frac{1}{c}] \geq 0, [\frac{1}{c}-x] \geq 0 \Rightarrow [x-\frac{1}{c}] \geq 0, [x-\frac{1}{c}] \leq 0 \Rightarrow x = \frac{1}{c}$



$\Rightarrow D_f = \{x \mid x = k + \frac{1}{c}, k \in \mathbb{Z}\}$

$$\text{ex) } y = \frac{\cos x + 1}{\tan x + 1} \rightarrow \tan x \neq -1 \Rightarrow x \neq k\pi - \frac{\pi}{4} \Rightarrow D_f = \mathbb{R} \setminus \left\{ \frac{k\pi}{2}, k\pi - \frac{\pi}{4} \right\} \quad -4$$

$$\rightarrow y = \sqrt{1 - \sqrt{2} \sin x} \Rightarrow \sqrt{2} \sin x \leq 1 \Rightarrow \sin^2 x \leq 0,5 \Rightarrow -\frac{1}{\sqrt{2}} \leq \sin x \leq \frac{1}{\sqrt{2}}$$



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

$$\text{ex) } \sqrt{2 \sin x - 1} \Rightarrow \sin x \geq \frac{1}{2} \rightarrow \text{Unit Circle} \Rightarrow D_f = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right] \quad -\checkmark$$

$$\rightarrow \sqrt{1 - 2 \cos x} \Rightarrow \cos x \leq \frac{1}{2} \rightarrow \text{Unit Circle} \Rightarrow D_f = \left[2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3} \right]$$

$$\text{ex) } -1 \leq x^2 + 2x + 1 \leq 1 \begin{cases} x^2 + 2x \leq 0 \rightarrow \frac{-x}{x^2+2x+1} \leq 0 \\ x^2 + 2x + 2 \geq 0 \rightarrow \frac{-x}{x^2+2x+1} \geq 0 \end{cases} \xrightarrow{D} D_f = [-1, 1] \quad -1$$

$$\rightarrow \sqrt{a - 2x} \leq 1 \Rightarrow 0 \leq a - 2x \leq 1 \Rightarrow a \geq 2x \geq 2 \Rightarrow 2 \leq x \leq \frac{a}{2} \Rightarrow D_f = \left[2, \frac{a}{2} \right]$$

all) $x > 0$

$$1 - \log_c x > 0 \Rightarrow \log_c x < 1 \Rightarrow x < c \quad \left. \vphantom{\log_c x} \right\} \rightarrow P_f = (0, c)$$

→) $x > 0$

$$1 - \log_{\frac{1}{c}} x > 0 \Rightarrow \log_{\frac{1}{c}} x < 1 \Rightarrow x > \frac{1}{c} \quad \left. \vphantom{\log_{\frac{1}{c}} x} \right\} \rightarrow P_f = (\frac{1}{c}, \infty)$$

all) $r^{mx-2r} - 1 \geq 0 \Rightarrow r^{-x+2r} \geq 1 \Rightarrow -x+2r \geq 0 \Rightarrow -x+2r-c \geq 0$

$$\begin{array}{r} 1 \quad c \\ - \quad 1 \quad 1 \quad - \\ \hline 0 \quad 0 \end{array}$$

$$\Rightarrow P_f = [c, \infty)$$

→) $\left(\frac{c+d}{r+k} \right) \leq y \Rightarrow \frac{c+d}{r+k} \leq W \Rightarrow x \leq \frac{kW-d}{rW-c}$

$$\Rightarrow P_f = \left\{ x \mid x \leq \frac{kW-d}{rW-c}, k \in W \right\}$$