

$$\omega) y = \sqrt{r^5 x - x^r} - 1 \Rightarrow r^5 x - x^r - r^5 \geq 0 \Rightarrow r^5 x - x^r \geq r^5 \Rightarrow$$

$$0 \geq x^r - r^5 x + r^5 \Rightarrow 0 \geq (x-1)(x-r^5) \Rightarrow \begin{array}{c} 1 \\ + \quad \phi \end{array} \quad \begin{array}{c} r^5 \\ - \quad \phi \end{array} \quad \begin{array}{c} \\ + \end{array} \Rightarrow D_f: [1, r^5]$$

$$\beta) y = \left(\frac{rx+5}{rx+5} \right)!$$

$$\frac{rx+5}{rx+5} \geq 0 \Rightarrow \left. \begin{array}{c} -r \\ + \quad \phi \end{array} \quad \begin{array}{c} -5 \\ - \quad \phi \end{array} \right\} \Rightarrow \text{غير مشروط}$$

$$\frac{rx+5}{rx+5} = n \quad n \in \mathbb{N} \Rightarrow 3x+5 = n(rx+5) \Rightarrow 3x - 2nx = 4n - 5 \Rightarrow$$

$$x(3-2n) = 4n-5 \Rightarrow x = \frac{4n-5}{3-2n}, n \in \mathbb{N} \Rightarrow D_f: x = \frac{4n-5}{3-2n}, n \in \mathbb{N} - \left[-r, -\frac{5}{r} \right]$$

$$\text{غير مشروط}$$

$$\frac{4n-5}{3-2n}$$

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$$\text{ا) } y = \left[x - \frac{1}{p} \right] + \left[x + \frac{1}{p} \right]$$

$$\Rightarrow y = \left[\left[x - \frac{1}{p} \right] + \left[x + \frac{1}{p} \right] \right] \Rightarrow y = \left[2x \right] \geq 0 \Rightarrow x \geq \frac{1}{2}$$

$$x \geq \frac{1}{2} \Rightarrow \left[x - \frac{1}{p} \right] \geq -1 \Rightarrow \left[x - \frac{1}{p} \right] \geq 0 \Rightarrow x \geq \frac{1}{p}$$

$$\text{ب) } y = \left[x - \frac{1}{p} \right] + \left[\frac{1}{p} - x \right]$$

$$\Rightarrow y = \left[\left[x - \frac{1}{p} \right] + \left[\frac{1}{p} - x \right] \right] \Rightarrow y = \left[0 \right] = 0$$

$$x \geq \frac{1}{p} \Rightarrow \left[x - \frac{1}{p} \right] \geq 0 \Rightarrow \left[x - \frac{1}{p} \right] + \left[\frac{1}{p} - x \right] = 0$$

$$t \neq z \Rightarrow \left[t \right] + \left[-t \right] = 0$$

$$\Rightarrow \left[t \right] + \left[-t \right] = 0 \Rightarrow \left[t \right] = -\left[-t \right]$$

$$x - \frac{1}{p} \in \mathbb{Z} \Rightarrow x = n + \frac{1}{p}, n \in \mathbb{Z}$$

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

$$\Rightarrow \left[x - \frac{1}{p} \right] + \left[\frac{1}{p} - x \right] \geq 0 \Rightarrow \left[x - \frac{1}{p} \right] \geq -\left[\frac{1}{p} - x \right]$$

$$D_f: x = n + \frac{1}{p}, n \in \mathbb{Z}$$

$$\text{ا) } y = \frac{\cot x + 1}{\tan x + 1} \Rightarrow \tan \neq -1 \Rightarrow \tan x \neq -1$$

$$\Rightarrow \tan x \neq -1 \Rightarrow \tan x \neq -1 \Rightarrow \tan x \neq -1$$

$$D_f: \mathbb{R} \setminus \left\{ -\frac{\pi}{4} \right\}$$

$$\text{ب) } y = \sqrt{1 - \sin^2 x} \Rightarrow 1 - \sin^2 x \geq 0 \Rightarrow 1 \geq \sin^2 x \Rightarrow \sin x \leq 1$$

$$\Rightarrow 1 \geq \sin^2 x \Rightarrow 1 \geq \sin^2 x \Rightarrow 1 \geq \sin^2 x$$

$$D_f: \left[k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2} \right]$$

$$\text{ا) } y = \sqrt{2 \sin x - 1} \Rightarrow 2 \sin x - 1 \geq 0 \Rightarrow 2 \sin x \geq 1 \Rightarrow \sin x \geq \frac{1}{2}$$

$$\Rightarrow 2 \sin x \geq 1 \Rightarrow 2 \sin x \geq 1 \Rightarrow 2 \sin x \geq 1$$

$$D_f: \left[\frac{\pi}{6}, \frac{5\pi}{6} \right]$$

$$\text{ب) } y = \sqrt{1 - 2 \cos x} \Rightarrow 1 - 2 \cos x \geq 0 \Rightarrow 1 \geq 2 \cos x \Rightarrow \cos x \leq \frac{1}{2}$$

$$\Rightarrow 1 \geq 2 \cos x \Rightarrow 1 \geq 2 \cos x \Rightarrow 1 \geq 2 \cos x$$

$$D_f: \left[\frac{2\pi}{3}, \frac{4\pi}{3} \right]$$

$$y = \arcsin(x^2 + 3x + 1)$$

$$\Rightarrow x^2 + 3x + 1 \in [-1, 1]$$

$$D_f: \left[-\frac{1}{2}, \frac{1}{2} \right]$$

$$\cos y = \sqrt{a - 2x} \Rightarrow a - 2x \geq 0 \Rightarrow a \geq 2x \Rightarrow x \leq \frac{a}{2}$$

$$\Rightarrow a \geq 2x \Rightarrow a \geq 2x \Rightarrow a \geq 2x$$

$$D_f: \left[-\frac{a}{2}, \frac{a}{2} \right]$$

$$\text{ا) } y = \log_r(1 - \log_w x)$$

$$\Rightarrow 1 - \log_w x > 0 \Rightarrow \log_w x < 1 \Rightarrow x < w$$

$$D_f: (0, w)$$

$$\text{ب) } y = \log_r(1 - \log_w x)$$

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$$D_f: (0, w)$$

تلم ونلم فائزادگی: راستینی توکی یا استفاده تشریحی تکلیف شماره ۲ کلاس یازدهم ریاضی

$$الف) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow x^3 + 2x^2 - 10x + 12 \neq 0 \Rightarrow D_f = \mathbb{R} - \left\{ \frac{1}{2}, \frac{3}{2} \right\}$$

$$\begin{aligned} x^3 + 2x^2 - 10x + 12 &= (x^3 + 2x^2 - 10x + 12) \\ &= (x^3 + 2x^2 - 10x + 12) \\ &= (x^3 + 2x^2 - 10x + 12) \end{aligned}$$

$$ب) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow x^3 + 2x^2 - 10x + 12 \neq 0 \Rightarrow D_f = \mathbb{R} - \left\{ -\frac{1}{2}, -\frac{3}{2} \right\}$$

$$ج) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow x^3 + 2x^2 - 10x + 12 \neq 0 \Rightarrow D_f = \mathbb{R} - \{1\}$$

$$\Delta < 0 \Rightarrow (x^2 - x + 1)(x - 1) < 0$$

$$ب) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow D_f = (-\infty, -\frac{1}{2}) \cup (1, +\infty)$$

$$\gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12}$$

$$x \geq 1 \Rightarrow x^3 - 10x + 12 \neq 0 \Rightarrow (x-2)(x-4) \neq 0 \Rightarrow x \neq \{2, 4\}$$

$$x < 1 \Rightarrow x^3 - 10x + 12 \neq 0 \Rightarrow x(x+3) \neq 0 \Rightarrow x \neq \{0, -3\}$$

$$D_f = \mathbb{R} - \{0, -3, 2, 4\}$$

$$ج) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow [-\infty, -\frac{1}{2}] \cup [1, +\infty) \Rightarrow x \leq -\frac{1}{2} \vee x \geq 1$$

$$ب) \gamma = \frac{x^2 + 3}{x^3 + 2x^2 - 10x + 12} \Rightarrow D_f = (-\infty, -\frac{1}{2}) \cup (1, +\infty)$$

$$t^2 - 2t - 3 \Rightarrow (t+3)(t-1) \neq 0 \Rightarrow t \neq -3, 1 \Rightarrow D_f = \mathbb{R} - \{-3, 1\}$$