

$$\begin{array}{r} 2x^3 + 3x^2 - 1x + 3 \\ - 2x^3 + 2x^2 \\ \hline \end{array} \quad \begin{array}{r} \frac{x-1}{2x^2 + 2x - 3} \end{array} \quad -1$$

$$\begin{array}{r} 5x^2 - 1x + 3 \\ - 5x + 5 \\ \hline - 3x + 3 \\ + 3x - 3 \\ \hline 0 \end{array}$$

$$\begin{array}{r} x + 3 \\ \hline (n-1)(2x^2 + 2x - 3) \\ \hline (2n-1)(n+3) \end{array}$$

$$D_F = 1R - \left\{ 1, -\frac{1}{2}, \frac{1}{3} \right\}$$

$$\text{جواب) } \frac{x+3}{2x^2 + 2x - 3} = \frac{x+3}{(n+1)(2n+1)(n+3)}$$

$$\begin{array}{r} 2x^2 + 2x - 3 \\ - 2x^2 - 2x \\ \hline 2x - 3 \\ + 2x - 3 \\ \hline 0 \end{array} \quad \begin{array}{r} 1x+1 \\ \hline 2x^2 + 2x - 3 \end{array}$$

$$D_F = 1R - \left\{ -1, -\frac{1}{2}, -\frac{1}{3} \right\}$$

✓

$$f(z) = \frac{z+z^2}{z^2 - (2n^2+1)z + n^2} = \frac{z+z^2}{(n-1)(z-n+1)} \Rightarrow \dots$$

شماره

$$R = \{1\}$$

$$\frac{z^2 - (2n^2+1)z + n^2}{z^2 - n^2} \cdot \frac{n-1}{z-n+1}$$

$$= \frac{z^2 - (2n^2+1)z + n^2}{z^2 - n^2}$$

$$+ \frac{n-1}{z-n+1}$$

$$= \frac{n-1}{z-n+1}$$

$$= \frac{n-1}{z-n+1}$$

$$= \frac{z+z^2}{z^2 - (2n^2+1)z + n^2}$$

$$(n-1) \cdot (z-n+1)$$

$$= \frac{n-1}{z-n+1}$$

$$= \frac{z+z^2}{z^2 - (2n^2+1)z + n^2}$$

$$D_p = (-\infty, -1] \cup (1, +\infty)$$

$$g = \frac{r}{n^r - a |n-1| - r n + a}$$

$$\begin{array}{l|l} n^r - a |n-1| - r n + a & n^r - a |n+1| - r n + a = 0 \\ n^r + r n = 0 & (n-r)(n-a) = 0 \\ n = 0 \quad n = -r & n = r \quad n = a \end{array}$$

$$\text{if } n=1 \rightarrow 1 - r + a = \epsilon$$

$$D = \mathbb{R} - \{0, -r, r, a\}$$

$$\text{w) } |g| = \sqrt{[n] - r} \Rightarrow [n] \geq r \Rightarrow -n \geq r$$

$$n \leq -r$$

$$\begin{aligned} \Rightarrow |g| &= \frac{a n^r + r}{[n]^r - r[n] - r} \Rightarrow [n]^r - r[n] - r = 0 \\ [n] &= -1 \\ [n] &= -\frac{r}{a} = r \end{aligned}$$

$$D_f = (\mathbb{R} - \{(-1, 0), (r, \epsilon)\})$$

$$\text{و 1) } y = \sqrt{\left[n - \frac{1}{p}\right] + \left[n + \frac{p}{p}\right]} \rightarrow -\infty$$

$$\sqrt{\left[n - \frac{1}{p}\right] + \left[n + \frac{p}{p}\right]} - 1 \Rightarrow \sqrt{\left[n + \frac{p}{p}\right] - 1} \Rightarrow$$

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

$$n + \frac{p}{p} \geq 1 \Rightarrow n \geq \frac{1}{p} \Rightarrow D_f = \left[\frac{1}{p}, +\infty\right)$$

$$\text{و 2) } y = \sqrt{\left[n - \frac{1}{p}\right] + \left[\frac{1}{p} - n\right]} \Rightarrow a \in \mathbb{Z} \quad [a] + [-a] = 0$$

$$a \notin \mathbb{Z} \quad [a] + [-a] = -1$$

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

$$D_f = \left\{ n \mid n = k + \frac{1}{p}, k \in \mathbb{Z} \right\}$$

$$\text{و 3) } y = \frac{\cot x + 1}{\tan x + 1} \quad \begin{array}{l} \sin \neq 0 \\ \cos \neq 0 \\ \tan \neq -1 \end{array}$$

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

$$\Rightarrow y = \sqrt{1 - \epsilon \sin^2 x} \Rightarrow 1 - \epsilon \sin^2 x \geq 0$$

$$1 \geq \epsilon \sin^2 x \Rightarrow \sin^2 x \leq \frac{1}{\epsilon} \Rightarrow \frac{1}{\sqrt{\epsilon}} \leq \sin x \leq \frac{1}{\sqrt{\epsilon}}$$

$$D_f = \left[k\pi - \frac{\pi}{\sqrt{\epsilon}}, k\pi + \frac{\pi}{\sqrt{\epsilon}} \right] \quad \text{P}$$

$$\Rightarrow y = \sqrt{1 - \epsilon \cos^2 x} \Rightarrow \quad \quad \quad - \vee$$

$$1 - \epsilon \cos^2 x \geq 0 \Rightarrow \cos^2 x \leq \frac{1}{\epsilon}$$

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

$$\Rightarrow y = \sqrt{\epsilon \sin x - 1} \Rightarrow \epsilon \sin x \geq 1 \quad \text{P}$$

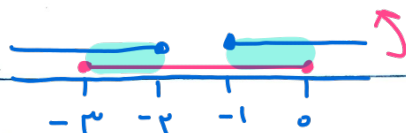
$$\sin x \geq \frac{1}{\epsilon} \quad D_f = \left[k\pi + \frac{\pi}{\sqrt{\epsilon}}, k\pi + \frac{3\pi}{\sqrt{\epsilon}} \right]$$

$$\Rightarrow -1 \leq \sin x \leq 1 \Rightarrow -1 \leq x + \pi \leq 1 \quad - \wedge$$

$$x + \pi \leq 1 \Rightarrow x + \pi \leq 0 \Rightarrow x(n + \pi) \leq 0$$

$$\frac{-r}{1 \pm r \pm 1} \Rightarrow [-r, 0]$$

$$D_f = [-r, -r] \cup [-1, 0]$$



$$n^2 + 2n + 1 \geq -1 \Rightarrow n^2 + 2n + 2 \geq 0$$

$$\frac{-2 \pm 1}{2 \pm 1 \pm 1} \quad (-\infty, -1] \cup [-1, +\infty)$$

$$\Rightarrow D_f = [-r, -r] \cup [-1, +\infty)$$

دست!

لوا

$$\Rightarrow -1 \leq \sqrt{a - 2n} \leq 1 \Rightarrow 0 \leq \sqrt{a - 2n} \leq 1$$

$$0 \leq a - 2n \leq 1 \Rightarrow -a \leq -2n \leq -1 \Rightarrow$$

$$1 \leq 2n \leq a \Rightarrow \frac{1}{2} \leq n \leq \frac{a}{2}$$

$$D_f = [\frac{1}{2}, \frac{a}{2}]$$

$$\forall 1 - \log_e^n > 0 \Rightarrow \log_e^n < 1$$

$$n < e$$

$$n > 0$$

$$D_f = (0, e)$$

$$\therefore y = \log_r (1 - \log_{\frac{1}{r}}^n) \quad \log_{\frac{1}{r}}^n \rightarrow n > 0$$

$$\hookrightarrow 1 - \log_{\frac{1}{r}}^n \rightarrow 0$$

$$\log_{\frac{1}{r}}^n < 1 \quad \boxed{D_f = (\frac{1}{r}, +\infty)}$$

$$\forall n, n^r \geq r^n$$

$$\exists n - n^r \geq r \Rightarrow n^r - \{n_r\} \leq 0$$

$$n=1 \cdot n=c$$

$$\frac{1}{x^2 - x}$$

$$[1, \infty) = D_f$$

$$\therefore y = \left(\frac{r^n + a}{r^n + \varepsilon} \right) \Rightarrow \frac{r^n + a}{r^n + \varepsilon} \in W$$

$$\frac{-(\varepsilon W - a)}{r^n - r} = n \Rightarrow a = \frac{\varepsilon W - r}{r^n - r}$$

$$D_f = \left\{ n \mid n = \frac{\varepsilon W - a}{r^n - r}, \varepsilon W \in W \right\}$$

$$\wedge \text{ الف - } -1 \leq x^r + w_n + 1 \leq 1 \xrightarrow{\frac{q}{\varepsilon} - \frac{q}{\varepsilon}} -1 \leq x^r + w_n + \frac{q}{\varepsilon} - \frac{q}{\varepsilon} \leq 1$$

$$\frac{1}{\varepsilon} \leq x^r + w_n + \frac{q}{\varepsilon} \leq \frac{q}{\varepsilon} \rightarrow \frac{1}{\varepsilon} \leq \left(x + \frac{w}{r}\right)^r \leq \frac{q}{\varepsilon}$$

$$\int \left(x + \frac{w}{r}\right)^r \leq \frac{q}{\varepsilon} \rightarrow -\frac{r}{r} \leq x + \frac{w}{r} \leq \frac{r}{r} \rightarrow -r \leq x \leq 0 \quad \text{I}$$

$$\int \left(x + \frac{w}{r}\right)^r \geq \frac{1}{\varepsilon} \rightarrow x + \frac{w}{r} \geq \frac{1}{r} \rightarrow x \geq -1 \quad \text{II} \quad x + \frac{w}{r} \leq -\frac{1}{r} \rightarrow x \leq -r \quad \text{II}$$

$$\text{I} \cap \text{II} \rightarrow \Omega_\varphi = [-r, -r] \cup [-1, 0]$$