

(2)

← 201 ← 1

$$g_2 = \frac{x+3}{2x^3 + 3x^2 - 11x + 3}$$

← 201 ← 1

$$\begin{array}{l} \left[\begin{array}{l} 2x^3 + 3x^2 - 11x + 3 \\ -2x^3 + 2x^2 \end{array} \right] \begin{array}{l} x-1 \\ \hline 2x^2 + 5x - 4 \end{array} \rightarrow x^2 + 5x - 4 \\ \hline \begin{array}{l} 5x^2 - 11x \\ -5x^2 + 5x \end{array} \hline \begin{array}{l} -6x + 3 \\ 6x - 6 \end{array} \hline 0 \end{array}$$

$(x-1)(x-1)(x+4)$

$$(x-1)(x-1)(x+4) \neq 0 \rightarrow D_f = \mathbb{R} - \{1, 1/4, -4\}$$

$$g_2 = \frac{x+3}{2x^3 + 9x^2 + 10x + 3}$$

← 201 ← 1

(5)

$$\begin{array}{l} \left[\begin{array}{l} 2x^3 + 9x^2 + 10x + 3 \\ -2x^3 - 2x^2 \end{array} \right] \begin{array}{l} x+1 \\ \hline 2x^2 + 11x + 4 \end{array} \rightarrow x^2 + 11x + 4 \\ \hline \begin{array}{l} 11x^2 + 10x \\ -11x^2 - 11x \end{array} \hline \begin{array}{l} 20x + 4 \\ -20x - 20 \end{array} \hline 0 \end{array}$$

$(x+4)(x+1)$
↳ -4 ↳ -1/4

$$(x+1)(x+4)(x+1) \neq 0 \rightarrow D_f = \mathbb{R} - \{-4, -1, -1/4\}$$

$$g_2 = \frac{x+3}{x^3 - 2x^2 + 2x - 1}$$

← 201 ← 1

$$\left[\begin{array}{l} x^3 - 2x^2 + 2x - 1 \\ -x^3 + x^2 \end{array} \right] \begin{array}{l} x-1 \\ \hline x^2 - x + 1 \end{array} \rightarrow \Delta < 0 \rightarrow \text{irreducible}$$

$\begin{array}{l} -x^2 + 2x \\ x^2 - x \hline x - 1 \hline -x + 1 \hline 0 \end{array}$

$$\rightarrow (n-1)(n^2-n+1) \rightarrow D_f = \mathbb{R} - \{1\}$$

\hookrightarrow

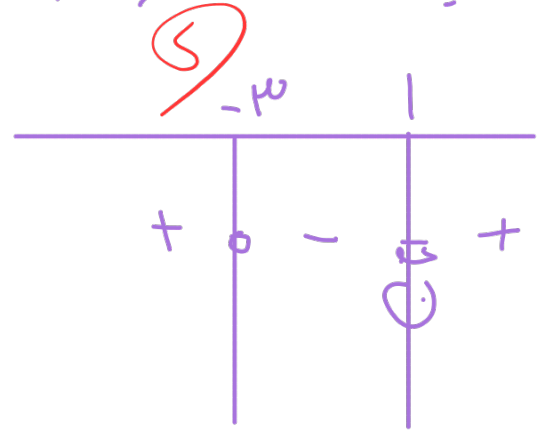
$$g_2 \sqrt{\frac{n^2 + \mu}{n^3 - \gamma n^2 + \gamma n - 1}}$$

$$\xrightarrow{p = \frac{1}{n-1}}$$

$$\rightarrow \frac{n^3 - \gamma n^2 + \gamma n - 1}{-n^2 + n^2} \quad \left| \begin{array}{l} n-1 \\ n^2 - n + 1 \end{array} \right. \rightarrow \Delta < 0 \rightarrow \text{stetig}$$

$$\frac{-n^2 + \gamma n}{n^2 - n} \rightarrow \frac{n-1}{-n+1}$$

$\leftarrow g_2 \mu$



$$\rightarrow (n-1)(n^2-n+1)$$

\hookrightarrow



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

$$g_2 \frac{\gamma}{n^2 - \omega(n-1) - \gamma n + \omega}$$

$\leftarrow \mu$

$$\mathbb{R}^- \rightarrow n^2 + \omega n - \omega - \gamma n + \omega \neq 0 \rightarrow n^2 + \gamma n \neq 0 \rightarrow n(n + \mu) \neq 0$$

$\begin{matrix} \swarrow & \searrow \\ 0 & -\mu \end{matrix}$



$$\mathbb{R}^+ \rightarrow n^2 - \omega n + \omega - \gamma n + \omega \neq 0 \rightarrow n^2 - \gamma n + \omega \neq 0 \rightarrow (n - \gamma)(n - \omega) \neq 0$$

$\begin{matrix} \swarrow & \searrow \\ \gamma & \omega \end{matrix}$

$$\rightarrow D_f \subset \mathbb{R} - \{-\mu, 0, \nu, \omega\}$$

$$g \geq \frac{n+\mu}{|\nu n+1| - |n+\mu|} \rightarrow$$

$\leftarrow \text{Df} \leftarrow \nu$

$$\nu n+1 + n+\mu \geq \mu n \neq -\nu \rightarrow n \neq -\frac{\nu}{\mu}$$

$$\nu n+1 - n-\mu \geq n-\nu \neq 0 \rightarrow n \neq \nu$$

$$D_f \subset \mathbb{R} - \left\{ -\frac{\nu}{\mu}, \nu \right\}$$

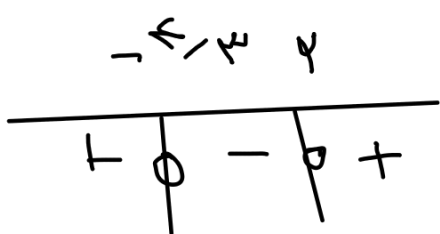
(5)

$$g \geq \sqrt{|\nu n+1| - |n+\mu|} \rightarrow |\nu n+1| - |n+\mu| \geq 0 \quad \text{Df} \leftarrow \nu$$

$$\rightarrow |\nu n+1| \geq |n+\mu| \xrightarrow{\nu \geq 0} \mu n^2 - \nu n - \nu \geq 0 \rightarrow$$

$$\mu n^2 - \nu n - \nu \geq 0 \rightarrow (n-\nu)(n+\nu) \geq 0 \rightarrow n \geq \nu$$

$$n = -\frac{\nu}{\mu}$$



$$\rightarrow D_f \subset (-\infty, -\frac{\nu}{\mu}] \cup [\nu, +\infty)$$

$\leftarrow \text{Df} \leftarrow \omega$

$$g \geq \log_{\nu} (1 - \log_{\mu}^{\omega} n)$$

$$n \geq 0$$

$$1 - \log_{\mu}^{\omega} n \geq 0 \rightarrow \log_{\mu}^{\omega} n < 1 \rightarrow n < \mu$$

$$D_f \subset (0, \mu)$$

(5)

$$y = \log_{\frac{1}{4}}(1 - \log_{\frac{1}{4}}^n)$$

← 2 ← ∞

$$\left. \begin{aligned} n > 0 \\ 1 - \log_{\frac{1}{4}}^n > 0 \Rightarrow \log_{\frac{1}{4}}^n < 1 \Rightarrow n > \frac{1}{4} \end{aligned} \right\} \Rightarrow D_f = (0, \infty)$$

$$f(x) = \sqrt{\log_{\frac{1}{4}} \log_{\frac{1}{4}}^{(x-1)}}$$

← 2

$$x-1 > 0 \Rightarrow x > 1 \Rightarrow x > \frac{1}{4}$$

$$\log_{\frac{1}{4}}^{x-1} > 0 \Rightarrow x-1 > 1 \Rightarrow x > 2 \Rightarrow x > 1$$

5

$$\log_{\frac{1}{4}} \log_{\frac{1}{4}}^{x-1} \geq 0 \Rightarrow \log_{\frac{1}{4}}^{x-1} \leq 1 \Rightarrow x-1 \leq \frac{1}{4} \Rightarrow x \leq \frac{5}{4} \Rightarrow x \leq 1.25$$

$$\rightarrow D_f = (1, \frac{5}{4}]$$

$$y = \log(x \cos n + 1)$$

$$D_f = \left(\frac{k\pi - \frac{\pi}{2}}{\omega}, \frac{k\pi + \frac{\pi}{2}}{\omega} \right) \leftarrow \text{ex } \omega$$

$$x \cos n + 1 > 0 \Rightarrow x \cos n > -1 \Rightarrow \cos n > -\frac{1}{x} \Rightarrow$$

$$y = \sqrt{\log \frac{n-1}{n+1}}$$

← 2 ← ∞

$$\frac{n-1}{n+1} > 0 \rightarrow \frac{-1}{+ \frac{1}{-} +} \rightarrow (-\infty, -1) \cup (1, +\infty) \text{ (U)}$$

$$\log_{10} \frac{n-1}{n+1} \geq 0 \rightarrow \frac{n-1}{n+1} > 1 \rightarrow \frac{n-1}{n+1} - 1 > 0 \rightarrow$$

$$\frac{-2}{n+1} \geq \frac{-1}{+ \frac{1}{-} +} \rightarrow (-\infty, -1) \text{ (U)} \xrightarrow{\text{Limes}} \mathbb{D}_f^2(-\infty, -1)$$

$$f(x) = \sqrt{(a+x)x^2 + ax + b}$$

$\mathbb{D}_f^2(-\infty, \mu]$
 a, b, μ, x^2

$$\left. \begin{array}{l} \rightarrow a+x=0 \rightarrow a=-x \end{array} \right\} \leftarrow 1$$

$$f(x) = \sqrt{-\gamma x + b} \Rightarrow -\gamma x + b \geq 0$$

$$\left. \begin{array}{l} \rightarrow \gamma x - b \leq 0 \end{array} \right\}$$

μ
+ -

$$\gamma - b \geq 0 \Rightarrow b \geq \gamma$$

$$\mathbb{D}_f = \mathbb{R} \Rightarrow \Delta \leq 0 \quad \leftarrow 4$$

$$\leftarrow -1 + m^2 \leq 0 \Rightarrow m^2 - 1 \leq -1 \Rightarrow m^2 \leq 0 \text{ (U)}$$

$$-1 \leq m \leq 1 \rightarrow 1 - (-1) = 2$$

$$f(x) = \frac{\sqrt{x-x^2}}{[x]+[-x]+1}$$

← 10

$$x-x^2 > 0 \Rightarrow x^2 \leq x \Rightarrow -1 \leq x \leq 1$$

$$[x]+[-x]+1 \neq 0 \Rightarrow [x]+[-x] \neq -1$$

$\begin{matrix} \swarrow & \swarrow \\ 1,1 & 1,1 \\ 1-1 & 2-1 \end{matrix}$

$\left. \begin{matrix} \text{Binomial} \\ \text{Expansion} \end{matrix} \right\} \rightarrow \mathbb{Z}$

✓ (S)

$$D_f = \{-1, -1, 0, 1, 1\} \rightarrow \mathbb{C}$$