

ب) $y = \frac{x+1}{x^3+9x^2+10x+1}$ $\rightarrow x^3+9x^2+10x+1 \neq 0$ $\rightarrow (x+1)(x^2+8x+1) \neq 0$ $\rightarrow x \neq -1, x \neq \frac{-8 \pm \sqrt{64-4}}{2} = \frac{-8 \pm \sqrt{60}}{2}$ $D_f = \mathbb{R} - \{-1, \frac{-8 \pm \sqrt{60}}{2}\}$	الف) $y = \frac{x+1}{x^3+x^2-8x+1}$ $\rightarrow x^3+x^2-8x+1 \neq 0$ $\rightarrow (x-1)(x^2+2x-7) \neq 0$ $\rightarrow x \neq 1, x \neq \frac{-2 \pm \sqrt{4+28}}{2} = \frac{-2 \pm \sqrt{32}}{2}$ $D_f = \mathbb{R} - \{1, \frac{-2 \pm \sqrt{32}}{2}\}$	۱
ب) $y = \sqrt{\frac{x+1}{x^3-2x^2+1x-1}}$ $\rightarrow \frac{x+1}{x^3-2x^2+1x-1} \geq 0$ $\rightarrow \frac{x+1}{(x-1)(x^2-x-1)} \geq 0$ $D_f = (-\infty, -1] \cup (1, +\infty)$	الف) $y = \frac{x+1}{x^3-2x^2+1x-1}$ $\rightarrow x^3-2x^2+1x-1 \neq 0$ $\rightarrow (x-1)(x^2-x-1) \neq 0$ $D_f = \mathbb{R} - \{1\}$	۲
$y = \frac{1}{x^2-5 x-1 -2x+5}$ $\rightarrow x^2-5 x-1 -2x+5 \neq 0$ $\rightarrow x^2-5x+5 \neq 0$ $\rightarrow x \neq \frac{5 \pm \sqrt{25-20}}{2} = \frac{5 \pm \sqrt{5}}{2}$ $D_f = \mathbb{R} - \{\frac{5 \pm \sqrt{5}}{2}\}$	$x^2-5x+5 \neq 0$ $x^2-5x+1 \neq 0$ $(x-2)(x-3) \neq 0 \rightarrow x \neq 2, x \neq 3$ $D_f = \mathbb{R} - \{-3, 0, 2, 5\}$	۳
ب) $y = \frac{5x^2+4}{[x]^2-2[x]-3}$ $\rightarrow [x]^2-2[x]-3 \neq 0$ $\rightarrow ([x]-3)([x]+1) \neq 0$ $\rightarrow [x] \neq 3, [x] \neq -1$ $D_f = (-\infty, -1) \cup [0, 3) \cup [4, +\infty)$	الف) $y = \sqrt{[-x]-2}$ $\rightarrow [-x]-2 \geq 0 \rightarrow [-x] \geq 2$ $\rightarrow -x \geq 2 \rightarrow x \leq -2$ $D_f = (-\infty, -2]$	۴
ب) $y = \sqrt{[x-\frac{1}{\mu}]} + [\frac{1}{\mu}-x]$ $[x-\frac{1}{\mu}] + [-(x-\frac{1}{\mu})] \geq 0 \rightarrow [x] + [-x] \geq 0$ $\rightarrow x - \frac{1}{\mu} \in \mathbb{Z}$ $\rightarrow x \in \mathbb{Z} + \frac{1}{\mu}$ $D_f = \{x x = k + \frac{1}{\mu}, k \in \mathbb{Z}\}$	الف) $y = \sqrt{[x-\frac{1}{\mu}]} + [x+\frac{1}{\mu}]$ $[x-\frac{1}{\mu}] + [x+\frac{1}{\mu}] \geq 0 \rightarrow [x-\frac{1}{\mu}] + [x-\frac{1}{\mu}+1] \geq 0$ $[x-\frac{1}{\mu}] + [x-\frac{1}{\mu}] + 1 \geq 0 \rightarrow 2[x-\frac{1}{\mu}] \geq -1$ $[x-\frac{1}{\mu}] \geq -\frac{1}{2} \rightarrow x - \frac{1}{\mu} \geq -\frac{1}{2} \rightarrow x \geq \frac{1}{\mu}$ $D_f = [\frac{1}{\mu}, +\infty)$	۵

