

الف $y = \sqrt{\frac{x^2 - \varepsilon x + \varepsilon}{x^2 - 1}} \rightarrow \frac{+1}{+1}$

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

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

ب $y = \sqrt{\frac{x^2 - \varepsilon x + \varepsilon}{x^2 - 1}}$

$x^2 - 1 \neq 0$

$x \neq \pm 1$

$D_f = \mathbb{R} - \{\pm 1\}$

ج $y = \log(x^2 - \varepsilon x)$

$x^2 - \varepsilon x > 0 \Rightarrow x > \varepsilon \text{ و } x < -\varepsilon$
 $\Rightarrow D_f = (\varepsilon, +\infty) \cup (-\infty, -\varepsilon)$

د $\log \frac{x^2 - \varepsilon x + 1}{x - \varepsilon}$

$1 - x > 0 \text{ و } x < 1 \text{ و } x \neq 1 \Rightarrow D_f = (-\infty, 1) \cup (1, +\infty) - \{0\}$

ه $y = \log \frac{14 - x^2}{|x| - 2}$

$14 - x^2 > 0 \Rightarrow 14 > x^2 \Rightarrow x < \sqrt{14} \text{ و } x > -\sqrt{14}$

$|x| - 2 > 0 \Rightarrow x > 2 \text{ و } x < -2$

$|x| - 2 \neq 0 \Rightarrow x \neq \pm 2$

$D_f = (-\sqrt{14}, -2) \cup (-2, 2) \cup (2, \sqrt{14})$

و $y = \sqrt{x^2 - 11x + 14} + \log \sqrt{x^2 - 11x + 14}$

$\sqrt{x^2 - 11x + 14} > 0 \Rightarrow x < 4 \text{ و } x > -4 \text{ و } x > 0 \text{ و } x \neq 1$

$D_f = (1, 4]$

ز $\frac{x^2 - x}{x^2 + x} \rightarrow \frac{x(x-1)}{x(x+1)} \rightarrow \frac{0}{-1}$

$$-\frac{-1}{+1} - \frac{0}{+1} - \frac{+1}{+1} +$$

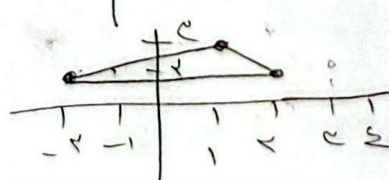
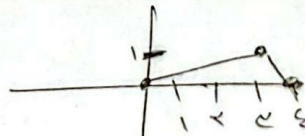
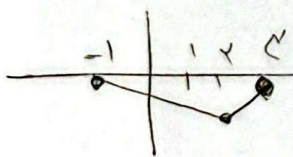
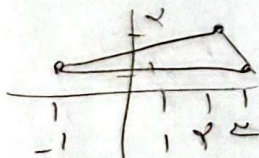
حساب

	-1	-1	0	+1
$x^2 + x$	+	+	+	+
$x^2 - x$	+	+	+	+
$R(x)$	+	+	+	+

ط $y = \sqrt{\frac{x - f(x)}{f(x)}} \rightarrow \frac{-1}{+1}$

$D_f = (-\infty, -2) \cup [-1, +\infty)$

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



الف) $x+2$ $\frac{x^2 - 2x + 1}{x - 1}$ ب) $x^2 - 2x + 1 \geq 0$ $D_f = [-1, 1] \cup (2, +\infty)$	الف) $x^2 - 2x + 1 \geq 0$ $D_f = [-1, 1] \cup (2, +\infty)$ ب) $x^2 - 2x + 1 \geq 0$ $D_f = [-1, 1] \cup (2, +\infty)$
الف) $\frac{x+1}{x-\sqrt{x^2-2x}}$ ب) $\frac{x+2}{x-\sqrt{x^2-2x}}$ $D_f = \{x x \leq \frac{3}{2}, x \neq 1\}$	الف) $\frac{x+1}{x-\sqrt{x^2-2x}}$ ب) $\frac{x+2}{x-\sqrt{x^2-2x}}$ $D_f = \{x x \geq \frac{3}{2}, x \neq 1\}$
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