

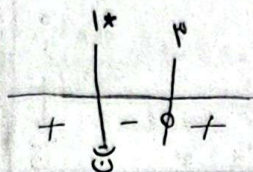
أ))

$$y = \sqrt{\frac{x^2 - 2x + 3}{x^2 - 1}} \quad D_f = (-\infty, 1) \cup [3, +\infty) - \{0\}$$

$$\frac{x^2 - 2x + 3}{x^2 - 1} \geq 0 \rightarrow \frac{(x-1)(x-3)}{x^2 - 1} \geq 0$$

$$x^2 - 1 > 0$$

$$x^2 > 1$$

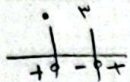


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$$y = \sqrt{\frac{x^2 - 2x + 3}{x^2 - 1}}$$

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

$$y = \log(x^2 - 3x)$$



$$x^2 - 3x > 0 \rightarrow x(x-3) > 0$$

$$D_f = (-\infty, 0] \cup [3, +\infty)$$

$$y = \log \frac{14 - x^2}{|x| - 2}$$

$$-2 < x < 2$$

$$14 - x^2 > 0 \rightarrow 14 > x^2$$

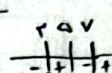
$$|x| - 2 > 0 \rightarrow |x| > 2$$

$$|x| - 2 \neq 0 \rightarrow \begin{cases} x > 2 \\ x < -2 \end{cases}$$

$$|x| \neq 2$$

$$D_f = (-2, 2) \cup (-\infty, -2) \cup (2, +\infty) \cup \{ \pm 2 \}$$

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



$$\frac{x^2 - 2x + 3}{1 - x} > 0 \rightarrow \frac{(x-2)(x-3)}{1-x}$$

$$1 - x > 0 \rightarrow x < 1$$

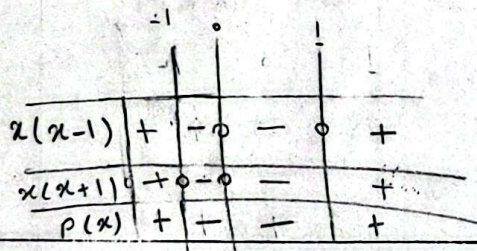
$$1 - x \neq 0 \rightarrow x \neq 1$$

$$D_f = (2, 3] \cup [3, +\infty) \cup (-\infty, 1)$$

$$y = \frac{x^2 - x}{x^2 + x}$$

$$x^2 - x > 0 \rightarrow x(x-1) > 0$$

$$x^2 + x \neq 0 \rightarrow x(x+1) \neq 0$$

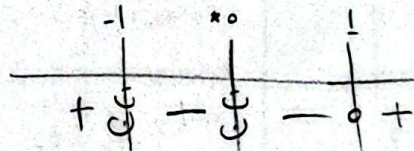


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$$y = \frac{x^2 - x}{x^2 + x}$$

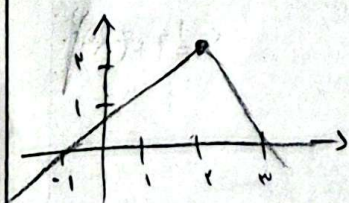
$$x^2 - x > 0 \rightarrow x(x-1) > 0$$

$$x^2 + x \neq 0 \rightarrow x(x+1) \neq 0$$

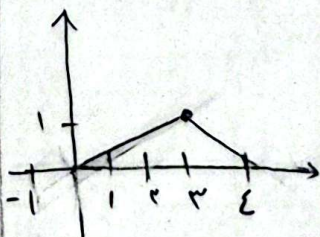


$$y = \sqrt{\frac{x - f(x)}{f(x)}}$$

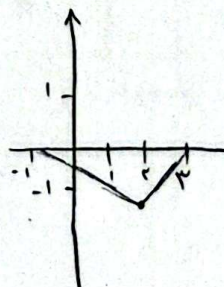
$$أ) f(x) + 1$$



$$ب) f(x-1)$$



$$ج) -f(x)$$



$$د) f(x+1) + 2$$

