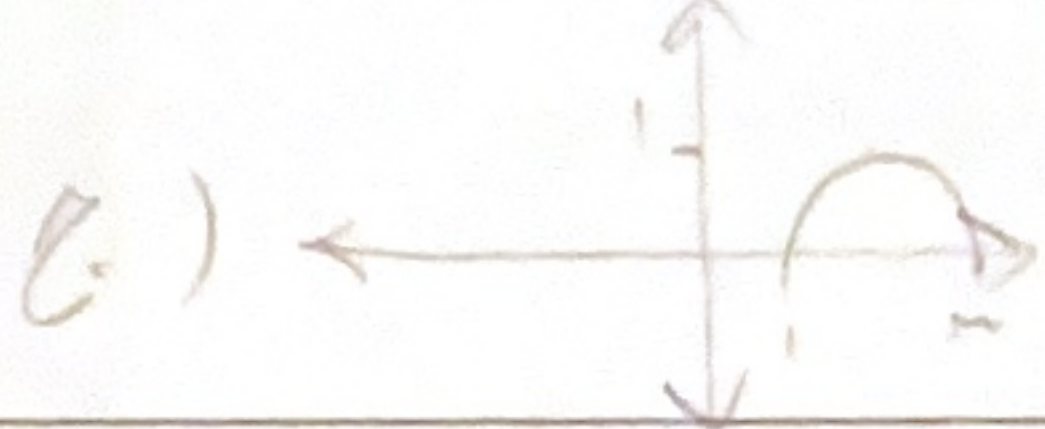
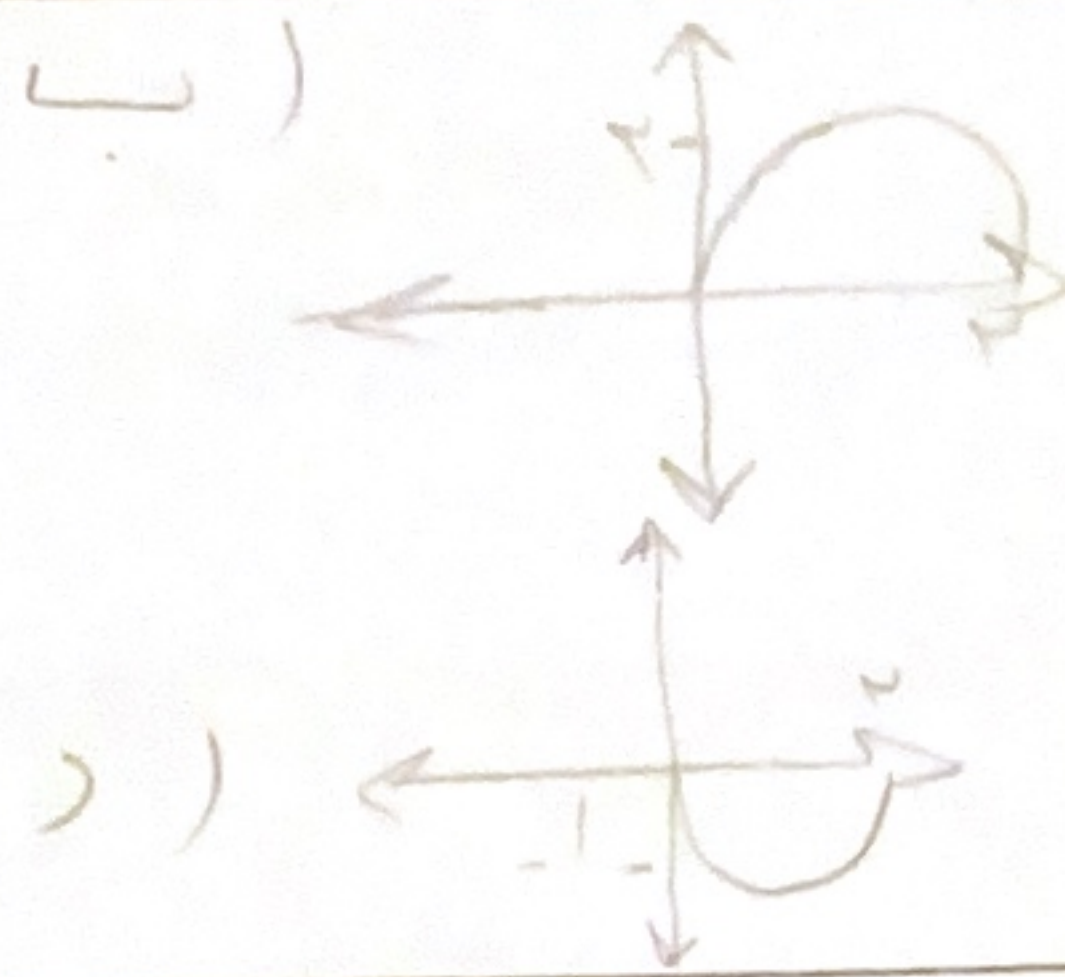
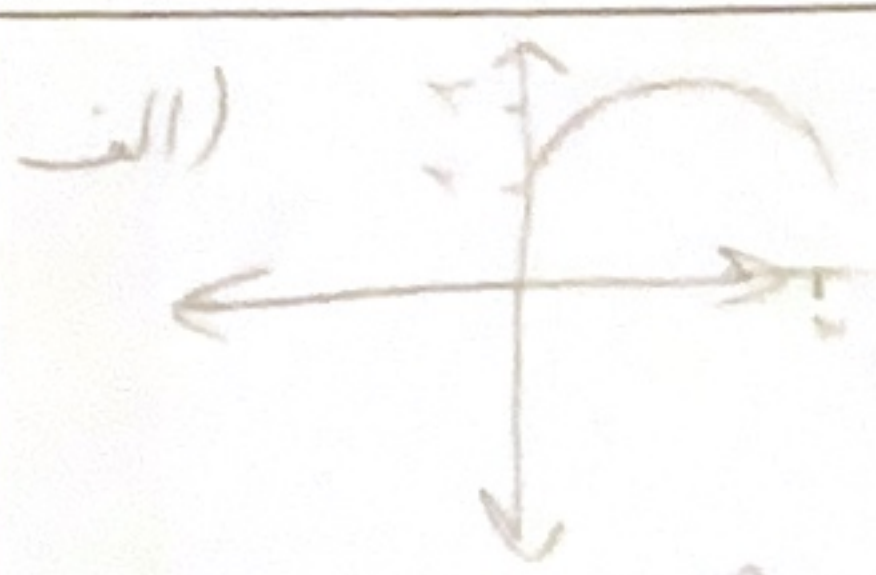


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✓ ۲

الف)  $x^2 - 0x + 4 \geq 0 \Rightarrow (x+2)(x-4) \geq 0 \Rightarrow (-\infty, -2] \cup [4, +\infty)$

ب)  $x^2 - 6x + 5 < 0 \Rightarrow (x-1)(x-5) < 0 \Rightarrow (1, 5)$  ①

ج)  $x^2 + 4x + 0 \geq 0 \Rightarrow (x+4)(x) \geq 0 \Rightarrow (-\infty, -4] \cup [0, +\infty)$

د)  $x^2 - 7x + 4 \leq 0 \Rightarrow (x-4)(x-1) \leq 0 \Rightarrow [1, 4]$

الف)  $\frac{x^2 - 3x + 2}{x - 0} < 0 \Rightarrow \frac{(x-2)(x-1)}{x} < 0 \Rightarrow (-\infty, 1) \cup (2, 0)$

ب)  $\frac{x^2 - 1}{x^2 - 4x + 5} \geq 0 \Rightarrow \frac{(x+1)(x-1)}{(x-2)(x-1)} \geq 0 \Rightarrow (-\infty, -1] \cup (0, +\infty)$  ۲ ✓

الف)  $y = \sqrt{\frac{x^2 - 1}{x^2 - x}} \Rightarrow \frac{(x+1)(x^2 - x + 1)}{x(x-1)} \Rightarrow (-1, 1) \cup (1, +\infty)$  ۱, ۲۵

ب)  $\sqrt{\frac{x^2 - 14}{x^2 - 5x + 4}} \Rightarrow \frac{(x-4)(x+4)}{(x-4)(x-1)} \Rightarrow (-\infty, -4] \cup (1, 4) \cup (4, +\infty)$  ۴

الف)  $\sqrt{4 - \sqrt{2 - x}} \geq 0 \Rightarrow 2 - x \geq 0 \Rightarrow x \leq 2 \Rightarrow 4 - \sqrt{2 - x} \geq 0 \Rightarrow \sqrt{2 - x} \leq 4 \Rightarrow 2 - x \leq 16 \Rightarrow x \geq -14 \Rightarrow [-14, 2]$

ب)  $\sqrt{3 - \sqrt{x - 2}} \geq 0 \Rightarrow x - 2 \geq 0 \Rightarrow x \geq 2, 3 - \sqrt{x - 2} \geq 0 \Rightarrow \sqrt{x - 2} \leq 3 \Rightarrow x - 2 \leq 9 \Rightarrow x \leq 11 \Rightarrow x \in [2, 11]$  ۵

$$\text{الف) } \sqrt{4-2x^2} \Rightarrow 4-2x^2 \geq 0 \Rightarrow 2x^2 \leq 4 \Rightarrow x \leq \pm \sqrt{2} \Rightarrow x \in [-\sqrt{2}, \sqrt{2}]$$

Ⓟ ✓

$$\text{ب) } \sqrt{3|x|-9} \Rightarrow 3|x|-9 \geq 0 \Rightarrow 3|x| \geq 9 \Rightarrow |x| \geq 3 \Rightarrow x \in \pm \sqrt{3}[-3, 3]$$

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$$\text{الف) } y = \sqrt[3]{\frac{|x|+1}{|x|-3}} \Rightarrow x \in \mathbb{R} - \{-3, -1\}$$

$$\text{ب) } y = \sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-3}} \Rightarrow x \in [0, +\infty) - \{9\}$$

Ⓟ ✓

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$$\text{الف) } \frac{\sin x}{2\cos x - 1} \Rightarrow \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}$$

$$\text{ب) } \frac{\cos x + 1}{2\sin x + 1} \Rightarrow \mathbb{R} - \{\frac{\sqrt{3}}{2} + 2k\pi, \frac{11\pi}{6} + 2k\pi\}$$

$$\text{ج) } \frac{\tan x + 2}{\cos x - 1} \Rightarrow \mathbb{R} - \{k\pi, \pi + k\pi\}$$

$$\text{د) } \frac{\sin x + 1}{2\sin x - 3} \Rightarrow \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$$

Ⓟ ✓

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$$\text{الف) } \frac{1}{\sqrt{2|x-2|} - \frac{1}{x}} \Rightarrow 2|x-2| - \frac{1}{x^2} \geq 0 \Rightarrow |x-2| > \frac{1}{x}$$

$$x-2 > \frac{1}{x} \rightarrow x > \frac{9}{x}$$

$$x-2 < -\frac{1}{x} \rightarrow x < \frac{9}{x}$$

$$x > \frac{9}{x}$$

$$x < \frac{9}{x}$$

$$\Rightarrow x \in (\frac{9}{x}, \frac{9}{x})$$

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$$D_f = (-\infty, -\frac{9}{x}) \cup (\frac{9}{x}, +\infty)$$

$$\text{الف) } y = \sqrt{4-4|x|} \Rightarrow 4-4|x| \geq 0 \Rightarrow |x| \leq 1 \Rightarrow x \in [-1, 1]$$

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$$\text{ب) } \sqrt{\frac{|x|}{x}} \begin{cases} \rightarrow + \\ \rightarrow 0 \\ \rightarrow - \end{cases} \left\{ \begin{matrix} + \\ 0 \\ - \end{matrix} \right\} (-\infty, 0) \cup (0, +\infty)$$

Ⓟ ✓