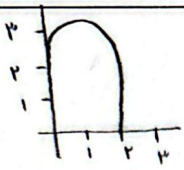
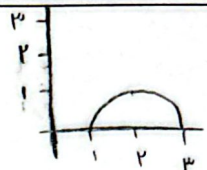
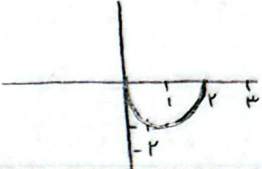
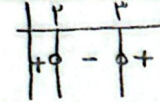
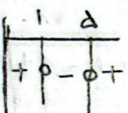
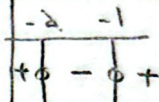
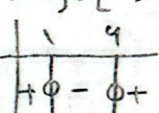
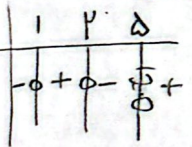
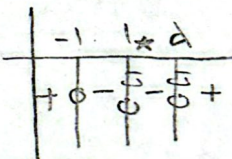
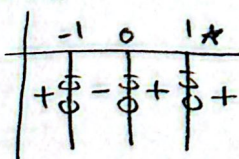
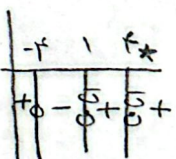
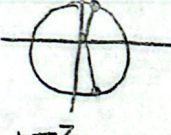


الف) $f(x)+2$  ب) $2f(x)$ 	۲) $f(x-1)$  ۱) $-f(x)$ 	۱
الف) $x^2-5x+4 > 0$ $(x-2)(x-4) > 0$ $(-\infty, 2) \cup (4, +\infty)$  ب) $x^2-9x+4 < 0$ $(x-1)(x-4) < 0$ $(1, 4)$ 	۲) $x^2+4x+4 > 0$ $(x+1)(x+4) > 0$ $(-\infty, -4] \cup [-1, +\infty)$  ۱) $x^2-7x+9 < 0$ $(x-1)(x-4) < 0$ $(1, 4)$ 	۲
الف) $\frac{x^2-3x+2}{x-2} < 0 \Rightarrow \frac{(x-1)(x+2)}{x-2}$  $(-\infty, 1) \cup (2, 2)$	ب) $\frac{x^2-1}{x^2-4x+4} \geq 0 \Rightarrow \frac{(x-1)(x+1)}{(x-1)(x-2)} \geq 0$  $(-\infty, -1] \cup (2, +\infty)$	۳
الف) $y = \sqrt{\frac{x^3-1}{x^3-x}} \Rightarrow \frac{(x-1)(x^2+x+1)}{x(x-1)(x+1)}$ $\frac{x^3-1}{x^3-x} \geq 0, x^3-x \neq 0$  $D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$	ب) $y = \sqrt{\frac{x^2-19}{x^2-2x+4}} \geq 0 \Rightarrow \frac{(x-4)(x+5)}{(x-1)(x-4)}$  $D_g = (-\infty, -4] \cup (1, 4) \cup (5, +\infty)$	۴
الف) $y = \sqrt{4-\sqrt{2-x}}$ $2-x \geq 0 \Rightarrow x \leq 2$ $4-\sqrt{2-x} \geq 0 \Rightarrow -x \leq 1 \Rightarrow x \geq -1$ $D_f = [-1, 2]$	ب) $y = \sqrt{3-\sqrt{x-2}}$ $x-2 \geq 0 \Rightarrow x \geq 2$ $3-\sqrt{x-2} \geq 0 \Rightarrow x \leq 11$ $D_g = [2, 11]$	۵

الف) $y = \sqrt{4 - 2 x } \geq 0 \Rightarrow x \leq 2 \Rightarrow x \in [-2, 2]$ $D_f = \{ \pm \sqrt{2} \}$ ب) $y = \sqrt{3 x - 9} \geq 0 \Rightarrow x \geq 3$ $-x \leq -3 \quad x \geq 3$ $D_f = (-\infty, -3] \cup [3, +\infty)$	6
الف) $y = \sqrt[3]{\frac{ x +1}{ x -3}}$ $x -3 \neq 0 \Rightarrow x \neq \pm 3$ $D_f = \mathbb{R} - \{ \pm 3 \}$ ب) $y = \sqrt[3]{\frac{\sqrt{x}+1}{\sqrt{x}-3}}$ $\sqrt{x}-3 \neq 0 \Rightarrow x \neq 9$ $x \geq 0$ $D_f = (0, +\infty) - \{9\}$	7
الف) $y = \frac{\sin x}{x \cos x - 1}$  $x \cos x - 1 \neq 0 \Rightarrow \cos x \neq \frac{1}{x}$ $D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2} \right\}$ ب) $y = \frac{\cos x + 1}{x \sin x + 1} \neq 0 \Rightarrow \sin x \neq -\frac{1}{x}$  $D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2} \right\}$ ج) $y = \frac{\tan x + 1}{\cot x - 1} = \frac{\frac{\sin x}{\cos x} + 1}{\frac{\cos x}{\sin x} - 1}$ $\cos x \neq 0$ $\sin x \neq 0$ $D_f = \mathbb{R} - \left\{ \frac{k\pi}{2} \right\}$  د) $y = \frac{\sin x + 1}{x \sin x - 1} \neq 0 \Rightarrow \sin x \neq \frac{1}{x} \Rightarrow \sin x \neq \pm \frac{1}{x}$ $D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{2} \right\}$ 	8
$y = \frac{1}{\sqrt{ x-2 } - \frac{1}{x}}$ $x-2 > \frac{1}{x} \Rightarrow x > \frac{2}{x-1}$ $x-2 < -\frac{1}{x} \Rightarrow x < \frac{2}{x-1}$ $D_f = (-\infty, \frac{2}{x-1}) \cup (\frac{2}{x-1}, +\infty)$	9
الف) $y = \sqrt{4 - 2 x } \geq 0 \Rightarrow 2 x \leq 4 \Rightarrow x \leq 2 \quad D_f = \{ \pm 2 \}$ ب) $y = \sqrt{\frac{ x }{ x }} \geq 0 \quad x \neq 0 \Rightarrow x \neq 0$ $D_f = \mathbb{R} - \{0\}$	10