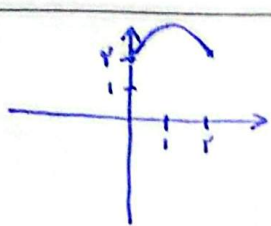
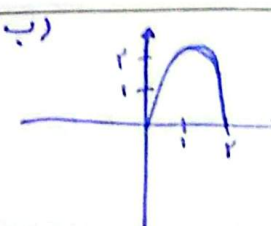
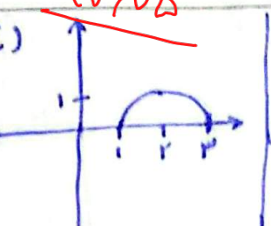
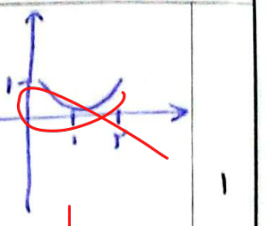


الف) 	ب) 	ج) 	د) 	۱
الف) $x^2 - 5x + 6 > 0 \Rightarrow (x-2)(x-3) > 0 \Rightarrow \begin{cases} x=2 \\ x=3 \end{cases}$ $(-\infty, 2) \cup (3, +\infty)$	ب) $x^2 - 4x + 4 < 0 \Rightarrow (x-1)(x-5) < 0 \Rightarrow \begin{cases} x=1 \\ x=5 \end{cases}$ $(1, 5)$	ج) $x^2 + 2x + 5 \geq 0 \Rightarrow (x+1)(x+5) \geq 0 \Rightarrow \begin{cases} x=-1 \\ x=-5 \end{cases}$ $(-\infty, -5] \cup [-1, +\infty)$	د) $x^2 - 7x + 6 \leq 0 \Rightarrow (x-1)(x-6) \leq 0 \Rightarrow \begin{cases} x=1 \\ x=6 \end{cases}$ $[1, 6]$	۲
الف) $\frac{x^2 - 3x + 2}{x - 5} < 0 \Rightarrow \begin{cases} (x-1)(x-2) = 0 \Rightarrow x=1, x=2 \\ x-5 = 0 \Rightarrow x=5 \end{cases}$ $\rightarrow (-\infty, 1) \cup (2, 5)$	ب) $\frac{x^2 - 1}{x^2 - 4x + 4} \geq 0 \Rightarrow \begin{cases} x^2 - 1 = 0 \Rightarrow x = \pm 1 \\ (x-1)(x-4) = 0 \Rightarrow x=1, x=4 \end{cases}$ $\rightarrow (-\infty, -1] \cup [4, +\infty)$	۳		
الف) $y = \sqrt{\frac{x^3 - 1}{x^3 - x}} \Rightarrow \begin{cases} x^3 - 1 \geq 0 \Rightarrow x \geq 1 \\ x^3 - x \neq 0 \Rightarrow x \neq \pm 1, x \neq 0 \end{cases}$ $(-\infty, -1) \cup (0, 1) \cup (1, +\infty)$	ب) $y = \sqrt{\frac{x^2 - 14}{x^2 - 5x + 4}} \Rightarrow \begin{cases} x^2 - 14 \geq 0 \Rightarrow x \geq \pm \sqrt{14} \\ x^2 - 5x + 4 \neq 0 \Rightarrow (x-1)(x-4) \neq 0 \Rightarrow x \neq 1, 4 \end{cases}$ $(-\infty, -\sqrt{14}] \cup (1, \sqrt{14}) \cup (4, +\infty)$	۴		
الف) $y = \sqrt{4 - \sqrt{2 - x}} \Rightarrow \begin{cases} \sqrt{2 - x} \geq 0 \rightarrow 2 - x \geq 0 \rightarrow x \leq 2 \\ 4 - \sqrt{2 - x} \geq 0 \rightarrow 4 \geq \sqrt{2 - x} \rightarrow 2 - x \leq 14 \rightarrow x \geq -14 \end{cases}$ $\rightarrow D_f = [-14, 2]$	ب) $y = \sqrt{2 - \sqrt{x - 2}} \Rightarrow \begin{cases} \sqrt{x - 2} \geq 0 \rightarrow x - 2 \geq 0 \rightarrow x \geq 2 \\ 2 - \sqrt{x - 2} \geq 0 \rightarrow 2 \geq \sqrt{x - 2} \rightarrow 4 \geq x - 2 \rightarrow x \leq 6 \end{cases}$ $D_f = [2, 6]$	۵		

الف) $\sqrt{4-x^2} \Rightarrow 4-x^2 \geq 0 \Rightarrow 4 \geq x^2 \Rightarrow x^2 \leq 4 \Rightarrow \sqrt{4} \geq |x| \Rightarrow -2 \leq x \leq 2$
 $Df = [-2, 2]$

(2) ✓

ب) $y = \sqrt{3|x|-9} \Rightarrow 3|x|-9 \geq 0 \Rightarrow 3|x| \geq 9 \Rightarrow |x| \geq 3 \Rightarrow x \leq -3$
 $x \geq 3$
 $Df = (-\infty, -3] \cup [3, +\infty)$

لا بد أن يكون المجال طاقوساً

الف) $y = \sqrt[3]{\frac{|x|+1}{|x|-3}} \Rightarrow \begin{cases} |x|+1 \geq 0 \Rightarrow |x| \geq -1 \Rightarrow \mathbb{R} \rightarrow \\ |x|-3 \neq 0 \Rightarrow |x| \neq 3 \Rightarrow x \neq \pm 3 \end{cases} \Rightarrow Df = \mathbb{R} - \{\pm 3\}$

ب) $y = \sqrt[3]{\frac{\sqrt{x}+1}{x-3}} \Rightarrow \sqrt{x}-3 \neq 0 \Rightarrow \sqrt{x} \neq 3 \Rightarrow x \neq 9 \Rightarrow Df = \mathbb{R} - \{9\}$
 $[0, +\infty)$
 زبدان باید تعریف شود $x \geq 0$

1, 5

الف) $y = \frac{\sin x}{x \cos x - 1} \Rightarrow x \cos x - 1 \neq 0 \Rightarrow x \cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{x}$

ب) $y = \frac{\cos x + 1}{x \sin x + 1} \Rightarrow x \sin x + 1 \neq 0 \Rightarrow x \sin x \neq -1 \Rightarrow \sin x \neq -\frac{1}{x}$
 $Df = (xk\pi - \frac{\pi}{2}, xk\pi - \frac{3\pi}{2})$
 $R - \{k\pi, k\pi + \frac{\pi}{2}\}$

ج) $y = \frac{\tan x + x}{\cot x - 1} \Rightarrow \frac{\cos x}{\sin x} - 1 \neq 0 \Rightarrow \frac{\cos x - \sin x}{\sin x} \neq 0 \Rightarrow \cos x \neq \sin x \Rightarrow x \neq \frac{\pi}{4} + k\pi$
 $Df = \mathbb{R} - \{k\pi\}$
 $Df = (xk\pi + \frac{\pi}{4}, xk\pi + \frac{5\pi}{4})$
 $R - \{k\pi \pm \frac{\pi}{4}\}$

$y = \frac{1}{\sqrt{2|x-2|-\frac{1}{2}}} \Rightarrow 2|x-2|-\frac{1}{2} > 0 \Rightarrow |x-2| > \frac{1}{4} \Rightarrow \begin{cases} x-2 > \frac{1}{4} \\ x-2 < -\frac{1}{4} \end{cases}$

$\rightarrow \begin{cases} x > 2\frac{1}{4} \\ x < 2\frac{3}{4} \end{cases} \rightarrow Df = (-\infty, 2\frac{1}{4}) \cup (2\frac{3}{4}, +\infty)$

✓ (2)

الف) $y = \sqrt{4-2|x|} \Rightarrow 4-2|x| \geq 0 \Rightarrow 4 \geq 2|x| \Rightarrow 2 \geq |x| \Rightarrow -2 \leq x \leq 2$
 $Df = [-2, 2]$

ب) $y = \sqrt{\frac{|x|}{|x|+1}} \Rightarrow \frac{|x|}{|x|+1} \geq 0 \Rightarrow \begin{cases} |x| \geq 0 \Rightarrow \mathbb{R} \\ |x|+1 \neq 0 \Rightarrow |x| \neq -1 \end{cases} \Rightarrow Df = \mathbb{R} - \{0\}$

(2) ✓