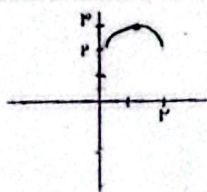
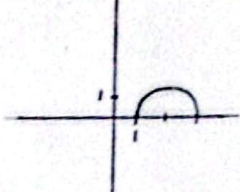
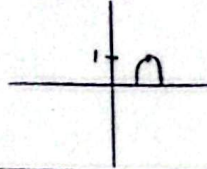
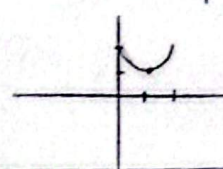
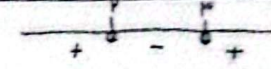
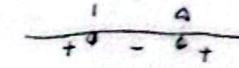
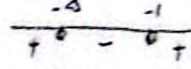
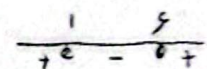
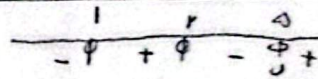
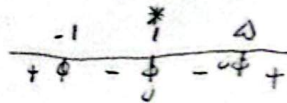
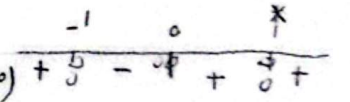
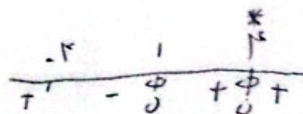


الف)		ج)		۱
ب)		د)		
الف)	$(x-2)(x-3) > 0 \rightarrow x=2, x=3$	$(-\infty, 2) \cup (3, +\infty)$		۲
ب)	$(x-1)(x-5) < 0 \rightarrow x=1, x=5$	$(1, 5)$		
ج)	$(x+1)(x+5) \geq 0 \rightarrow x=-1, x=-5$	$(-\infty, -5] \cup [-1, +\infty)$		
د)	$(x-2)(x-1) \leq 0 \rightarrow x=2, x=1$	$[1, 2]$		
الف)	$\frac{(x-1)(x-2)}{x-5} < 0 \rightarrow x=1, x=2, x=5$	$(-\infty, 1) \cup (2, 5)$		۳
ب)	$\frac{(x-1)(x+1)}{(x-1)(x-5)} \geq 0 \rightarrow x=1, x=-1, x=5$	$(-\infty, -1] \cup (5, +\infty)$		
الف)	$\frac{(x-1)(x^2+2)}{x(x^2-1)} \rightarrow x=1, x=0, x=-1$	$D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$		۴
ب)	$\frac{(x-2)(x+2)}{(x-2)(x-1)} \rightarrow x=2, x=-2, x=1$	$D_f = (-\infty, -2] \cup (1, 2) \cup (2, +\infty)$		
الف)	$2-x \geq 0 \rightarrow x \leq 2$	$4-\sqrt{2-x} \geq 0 \rightarrow 4 \geq \sqrt{2-x} \rightarrow 16 \geq 2-x \rightarrow x \geq -14$	$D_f = [-14, 2]$	۵
ب)	$x-2 \geq 0 \rightarrow x \geq 2$	$3-\sqrt{x-2} \geq 0 \rightarrow \sqrt{x-2} \leq 3 \rightarrow x-2 \leq 9 \rightarrow x \leq 11$	$D_f = [2, 11]$	

الف) $4 - 2x^2 \geq 0 \rightarrow 2x^2 \leq 4 \rightarrow x^2 \leq 2 \rightarrow -\sqrt{2} \leq x \leq \sqrt{2} \rightarrow [-\sqrt{2}, \sqrt{2}]$

ب) $3|x| - 9 \geq 0 \rightarrow 3|x| \geq 9 \rightarrow |x| \geq 3 \rightarrow \left. \begin{matrix} x \geq 3 \\ x \leq -3 \end{matrix} \right\} (-\infty, -3] \cup [3, +\infty)$

الف) $|x| - 3 \neq 0 \rightarrow |x| \neq 3 \rightarrow x \neq \pm 3 \rightarrow D_f = \mathbb{R} - \{\pm 3\}$

ب) $\left. \begin{matrix} x \geq 0 \\ \sqrt{x} - 3 \neq 0 \rightarrow \sqrt{x} \neq 3 \rightarrow x \neq 9 \end{matrix} \right\} D_f = [0, +\infty) - \{9\}$

الف) $2 \cos x - 1 \neq 0 \rightarrow 2 \cos x \neq 1 \rightarrow \cos x \neq \frac{1}{2} \rightarrow D_f = \mathbb{R} - \left\{ 2k\pi \pm \frac{\pi}{3} \right\}$



ب) $2 \sin x + 1 \neq 0 \rightarrow 2 \sin x \neq -1 \rightarrow \sin x \neq -\frac{1}{2} \rightarrow D_f = \mathbb{R} - \left\{ 2k\pi - \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right\}$



ج) $\left. \begin{matrix} \cot x - 1 \neq 0 \rightarrow \cot x \neq 1 \rightarrow \frac{\sin x}{\cos x} \neq 1 \\ \sin x \neq 0 \\ \cos x \neq 0 \end{matrix} \right\} D_f = \mathbb{R} - \left\{ \frac{k\pi}{2}, k\pi + \frac{\pi}{4} \right\}$

د) $2 \sin^2 x - 3 \neq 0 \rightarrow 2 \sin^2 x \neq 3 \rightarrow \sin^2 x \neq \frac{3}{2} \rightarrow \sin x \neq \pm \frac{\sqrt{3}}{2} \rightarrow D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{3}, k\pi + \frac{2\pi}{3} \right\}$

$2|x-2| - \frac{1}{x} > 0 \rightarrow 2|x-2| > \frac{1}{x} \rightarrow |x-2| > \frac{1}{2x} \rightarrow \begin{cases} x-2 > \frac{1}{2x} \rightarrow x > \frac{1}{x} \\ x-2 < -\frac{1}{2x} \rightarrow x < \frac{1}{x} \end{cases}$

$D_f = (-\infty, \frac{1}{x}) \cup (\frac{1}{x}, +\infty)$

الف) $4 - 2|x| \geq 0 \rightarrow 2|x| \leq 4 \rightarrow |x| \leq 2 \rightarrow -2 \leq x \leq 2 \rightarrow D_f = [-2, 2]$

ب) $\left. \begin{matrix} \frac{|x|}{|x|} \geq 0 \rightarrow \frac{1}{1} \geq 0 \\ |x| \neq 0 \rightarrow x \neq 0 \end{matrix} \right\} D_f = \mathbb{R} - \{0\}$