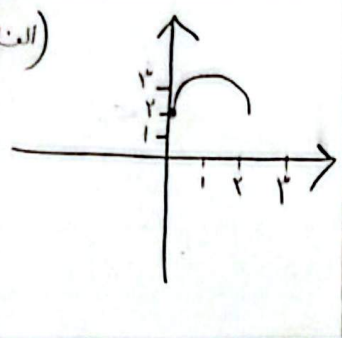
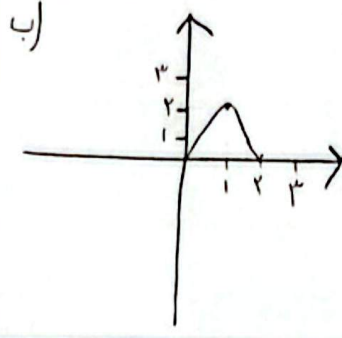
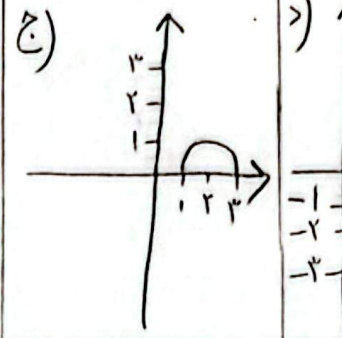
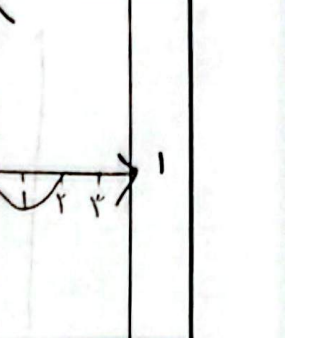
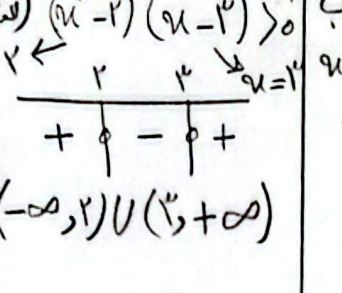
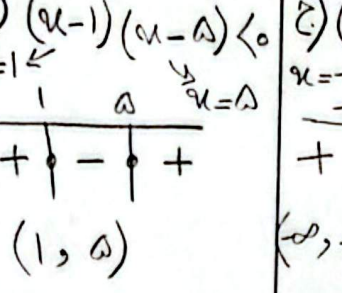
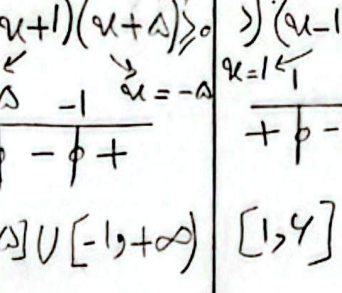
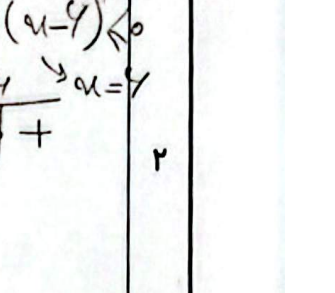
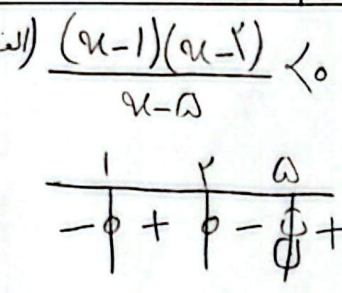
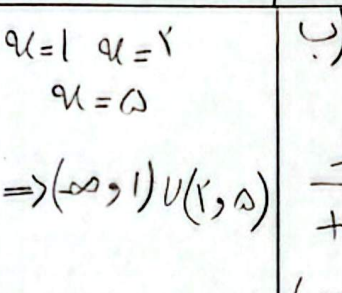
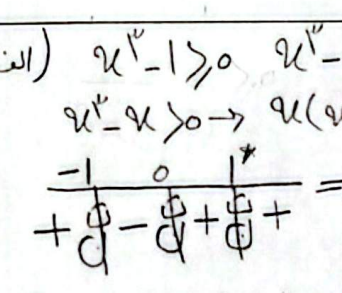
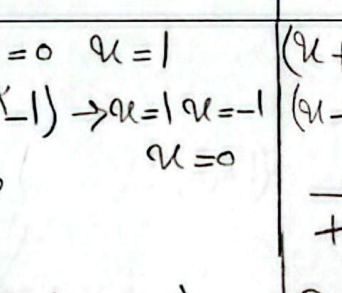


الف) 	ب) 	ج) 	د) 	
الف) $(x-2)(x-3) > 0$ $x=2 \leftarrow$ $x=3 \rightarrow$  $(-\infty, 2) \cup (3, +\infty)$	ب) $(x-1)(x-5) < 0$ $x=1 \leftarrow$ $x=5 \rightarrow$  $(1, 5)$	ج) $(x+1)(x+5) > 0$ $x=-1 \leftarrow$ $x=-5 \rightarrow$  $(-\infty, -5] \cup [-1, +\infty)$	د) $(x-1)(x-4) < 0$ $x=1 \leftarrow$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

ا) $1 - x^2 \geq 0 \rightarrow x^2 \leq 1$ $\rightarrow x^2 \leq 1 \rightarrow -\sqrt{1} \leq x \leq \sqrt{1}$ $D_f = [-1, 1]$	ب) $3 x - 9 \geq 0 \rightarrow x \geq 3$ $\rightarrow x \geq 3 \rightarrow -3 \leq x \leq 3$ $D_f = [3, +\infty) \cup (-\infty, -3]$	٦
ا) $ x - 3 \neq 0 \quad x \neq 3$ $\rightarrow x = \pm 3$ $D_f = \mathbb{R} - \{\pm 3\}$	ب) $x \geq 0$ $\sqrt{x} - 3 \neq 0 \rightarrow \sqrt{x} \neq 3$ $\rightarrow x \neq 9$ $D_f = [0, 9) \cup (9, +\infty)$	٧
ا) $1 - \cos x \neq 0$ $\cos x \neq 1$ $D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{2}\}$	ب) $1 + \sin x \neq 0$ $\sin x \neq -1$ $D_f = \mathbb{R} - \{2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{7\pi}{2}\}$	٨
ج) $\cos x \neq 0$ $\cot x - 1 \neq 0 \rightarrow \cot x \neq 1$ $D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{4}\}$	د) $1 - \sin^2 x \neq 0$ $\sin^2 x \neq 1$ $\sin x \neq \pm \sqrt{1}$ $D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2}\}$	٩
$1 - x - 2 - \frac{1}{x} > 0 \rightarrow x - 2 > \frac{1}{x} \rightarrow x - 2 > \frac{1}{x} \rightarrow x > \frac{1}{x}$ $x - 2 < -\frac{1}{x} \rightarrow x < \frac{1}{x}$ $D_f = (\frac{1}{x}, +\infty) \cup (-\infty, \frac{1}{x})$		٩
ا) $1 - 2 x \geq 0 \rightarrow x \leq \frac{1}{2}$ $\rightarrow x \leq \frac{1}{2} \rightarrow x \leq \frac{1}{2}$ $x \geq -\frac{1}{2}$ $D_f = [-\frac{1}{2}, \frac{1}{2}]$	ب) $ x \neq 0 \rightarrow x \neq 0$ $\frac{ x }{ x } \geq 0 \checkmark$ هسته بقرار است $D_f = \mathbb{R} - \{0\}$	١٠