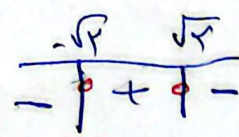
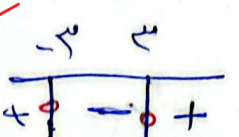
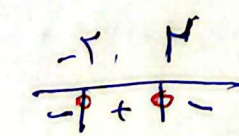
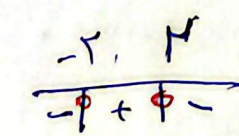


نام و نام خانوادگی: (اسامه) پاسخنامه تشریحی تکلیف شماره ۵ کلاس A ۱۹,۷۵				
الف) $f(x)+2$	ب) $2f(x)$	ج) $f(x-1)$	د) $-f(x)$	۱
الف) $x^2-5x+2>0 \rightarrow (x-2)(x-3)>0$	ج) $x^2+2x+1\geq 0 \rightarrow (x+1)(x+1)\geq 0$		د) $x^2-7x+4\leq 0 \rightarrow (x-1)(x-4)\leq 0$	
$D_f = (-\infty, 2) \cup (3, +\infty)$	$D_f = (-\infty, -1] \cup [-1, +\infty)$		$D_f = [1, 4]$	
ب) $x^2-6x+5<0 \rightarrow (x-1)(x-5)<0$	د) $x^2-1 \geq 0 \rightarrow \frac{(x-1)(x+1)}{(x-1)(x-4)} \geq 0$			
$D_f = (1, 5)$	$D_f = (-\infty, -1] \cup (4, +\infty)$			
الف) $\frac{x^2-3x+2}{x-5} < 0 \rightarrow \frac{(x-2)(x-1)}{x-5} < 0$	ب) $y = \sqrt{\frac{x^2-1}{x^2-x}} \rightarrow \frac{(x+1)(x-1)}{x(x-1)} \geq 0$		د) $y = \sqrt{\frac{x^2-1}{x^2-5x+2}} \rightarrow \frac{(x+1)(x-1)}{(x-2)(x-1)}$	
$D_f = (-\infty, -1) \cup (2, 5)$	$D_f = (-\infty, -1] \cup (0, 1) \cup (1, +\infty)$		$D_f = (-\infty, -1] \cup (1, +\infty) - \{2\}$	
الف) $y = \sqrt{4-\sqrt{2-x}}$	ب) $y = \sqrt{4-\sqrt{x-2}}$			
$4-\sqrt{2-x} \geq 0 \rightarrow x \geq -1$	$4-\sqrt{x-2} \geq 0 \rightarrow x \leq 11$			
$2-x \geq 0 \rightarrow x \leq 2$	$x-2 \geq 0 \rightarrow x \geq 2$			
$D_f = [-1, 2]$	$D_f = [2, 11]$			

الف) $y = \sqrt{4-2x^2} \rightarrow 4-2x^2 \geq 0 \rightarrow 2x^2 \leq 4$ $\rightarrow x^2 \leq 2 \rightarrow x \leq \pm\sqrt{2}$  $D_f = [-\sqrt{2}, \sqrt{2}]$	ب) $y = \sqrt{ x -4} \rightarrow x -4 \geq 0$ $x \geq 4 \rightarrow x = \pm 4$  $D_f = (-\infty, -4] \cup [4, +\infty)$	6
الف) $y = \sqrt{\frac{ x +1}{ x -3}} \rightarrow x -3 \neq 0 \rightarrow x \neq 3$ $\rightarrow x \neq \pm 3$ $\rightarrow D_f = \mathbb{R} - \{-3, 3\}$	ب) $y = \sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-3}} \rightarrow x \geq 0$ $\sqrt{x}-3 \neq 0$ $\sqrt{x} \neq 3 \rightarrow x \neq 9$ $\rightarrow D_f = [0, +\infty) - \{9\}$	7
الف) $y = \frac{\sin x}{\cos x + 1} \rightarrow \cos x \neq -1 \rightarrow \cos x \neq -1$ $\rightarrow D_f = \mathbb{R} - \{k\pi \pm \pi\}$	ب) $\frac{\cos x + 1}{\sin x + 1} \rightarrow \sin x \neq -1$ $\{x = k\pi + \frac{3\pi}{2}, x = k\pi - \frac{\pi}{2}\}$ $\rightarrow D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$	8
2) $y = \frac{\tan x + 1}{\cot x - 1} \rightarrow \cot x \neq 1 \quad \sin x \neq \cos x$ $\rightarrow D_f = \mathbb{R} - \{k\frac{\pi}{2}, k\pi \pm \frac{\pi}{4}\}$	3) $y = \frac{\sin x + 1}{\sin x - 1} \rightarrow \sin x \neq \pm 1 \rightarrow \sin x \neq \pm 1$ $\rightarrow D_f = \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$	9
$y = \frac{1}{\sqrt{ x-2 -\frac{1}{2}}} \rightarrow x-2 -\frac{1}{2} > 0 \rightarrow x-2 > \frac{1}{2} \rightarrow x-2 > \frac{1}{2}$ $\rightarrow x-2 < -\frac{1}{2}, x-2 > \frac{1}{2}$ $\rightarrow x < \frac{3}{2}, x > \frac{5}{2}$ $D_f = (-\infty, \frac{3}{2}) \cup (\frac{5}{2}, +\infty)$	الف) $y = \sqrt{4-2 x } \rightarrow 4-2 x \geq 0$ $\rightarrow x \leq \pm 2$  $D_f = [-2, 2]$	10
ب) $y = \sqrt{\frac{ x }{ x +1}} \rightarrow \frac{ x }{ x +1} \geq 0$ $x \neq 0$ $D_f = \mathbb{R} - \{0\}$	الف) $y = \sqrt{4-2 x } \rightarrow 4-2 x \geq 0$ $\rightarrow x \leq \pm 2$  $D_f = [-2, 2]$	11