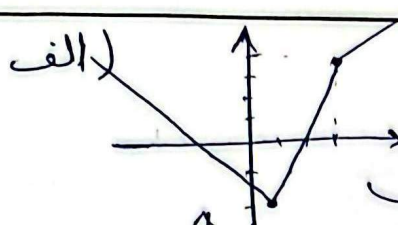
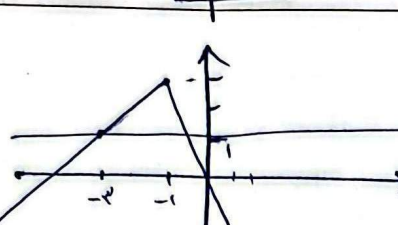
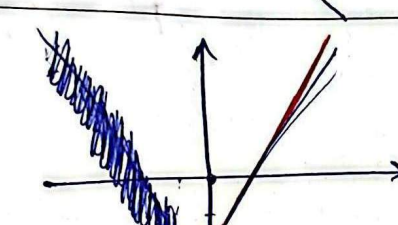
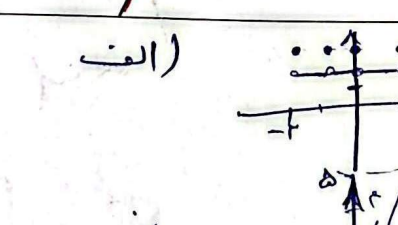
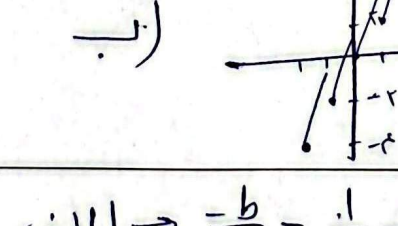


صفر

تکلیف هفته پیش آپلود شده ::

نام و نام خانوادگی: (اسم بنویسید) پاسخنامه تشریحی تکلیف شماره ۵ کلاس دوازدهم	
الف) $\frac{ x +1}{ x -2} = y \rightarrow \frac{y+1}{y-1} = x \geq 0 \rightarrow \frac{-1}{-1} \frac{1}{0+} \rightarrow R_y = (-\infty, \frac{1}{-1}] \cup (1, +\infty)$ ب) $\frac{x^2+1}{ x } = x + \frac{1}{ x } \Rightarrow R_f = [2, +\infty)$	۱
$yx + 3y = x^2 + 2x - 2 \rightarrow x^2 + (2-y)x - 2 - 3y = 0$ $\Delta \Rightarrow (2-y)^2 - 4(-2-3y) \rightarrow y^2 + 14y + 12 = (y+2)(y+6)$ $\Delta = (y+2)(y+6) \geq 0 \rightarrow R = (-\infty, -6] \cup [-2, +\infty)$	۲
$\frac{(x-\frac{1}{x})^2}{(x-\frac{1}{x})^2 + \frac{3}{x}} \Rightarrow \frac{t^2}{t^2 + \frac{3}{x}} \begin{cases} 0 \rightarrow 0 \\ \infty \rightarrow 1 \end{cases} \rightarrow D_f = \mathbb{R}$ $R_f = [0, 1)$	۳
الف) $\Delta = 16 - 4 = 12 \rightarrow y_s = \frac{-\Delta}{2a} = \frac{-12}{-4} = 3 \Rightarrow R_f = [0, \sqrt{3}]$ ب) $x_s = \frac{-b}{2a} = \frac{-(-1)}{2} = \frac{1}{2} \rightarrow y_s \Rightarrow \sqrt{1-14} = -2$ $R_f = [-2, +\infty)$	۴
الف) $x^3 - x + 18 \rightarrow (-\infty, +\infty) \Rightarrow \log(x^3 - x + 18) \rightarrow R_f = \mathbb{R}$ ب) $\log_2(x + \frac{1}{x}) \rightarrow R_f = [1, +\infty)$ $\downarrow$ $[2, +\infty)$	۵

الف) 	$x \leq 1 \rightarrow -2x + 2 + x - 3 = -x - 1$ $x \geq 1 \rightarrow 2x - 2 - x + 3 = x + 1$ $\rightarrow R_f = [-1, +\infty)$	6
ب) 	$R = (-\infty, -3] \cup [-\frac{1}{3}, +\infty)$ $x \geq 1 \rightarrow x - 1 - 2x - 2 = -x - 3$ $-1 < x < 1 \rightarrow 1 - x - 2x - 2 = -3x$ $-1 \leq x \rightarrow 1 - x + 2x + 2 = x + 3$ $x + 3 = 1 \Rightarrow x = -2$ $-3x = 1 \Rightarrow x = -\frac{1}{3}$	7
	$x \geq 0 \rightarrow 2x - 2x + 1 + x = x - 1$ $x \leq -\frac{1}{2} \rightarrow 2x + 2x + 1 - x = x + 1$ $R_f = \mathbb{R}$	8
الف)  ب) 	$\rightarrow R_f = \{1, 3\}$ $\rightarrow R_f = [-1, 5]$	9
الف) $\rightarrow \frac{b}{1a} = \frac{1}{1} \rightarrow \frac{1}{1} - \frac{1}{1} + \frac{1}{1} = \frac{1}{1} \left\{ \left[\frac{1}{1}, 1 \right] = R \right.$ max = -1 $\rightarrow 1 - (-1) + 1 = 3$ ب) $0 \leq \sin x \leq 1 \rightarrow R_f = [0, 1]$		10