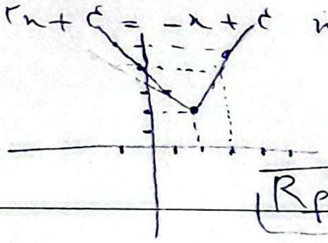
نام و نام خانوادگی ......[illegible]...... پاسخنامه تشریحی تکلیف شماره ...۷... کلاس ...یازدهم دختر B...

۱

الف) $y = x + |2x - 4|$

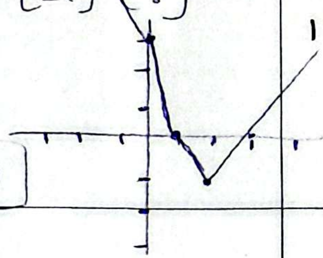
$$\begin{cases} x + 2x - 4 = 3x - 4 & x \geq 2 \\ x - 2x + 4 = -x + 4 & x \leq 2 \end{cases}$$



$R_f = [2, +\infty)$

ب) $y = |x-2| + |x-1| - |x|$

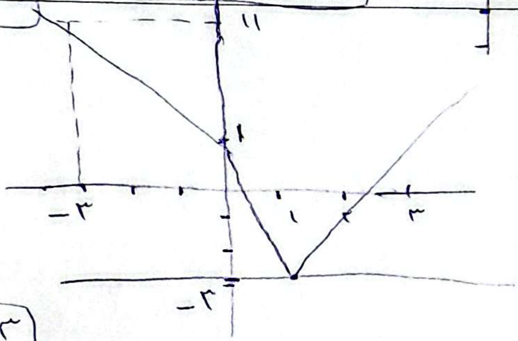
نقاط : $\begin{bmatrix} 0 \\ 3 \end{bmatrix} \begin{bmatrix} 1 \\ 0 \end{bmatrix} \begin{bmatrix} 2 \\ -1 \end{bmatrix} \begin{bmatrix} 3 \\ 0 \end{bmatrix}$



$R_f = [-1, +\infty)$

۲

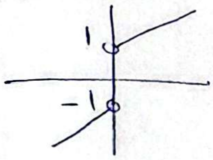
$$\begin{cases} 2x - 5 & x \geq 1 \\ -4x + 1 & -2 \leq x < 1 \\ -2x + 5 & x < -2 \end{cases}$$



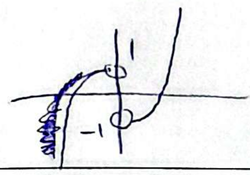
$K = -3$

۳

الف) $\begin{cases} x + 1 & x > 0 \\ x - 1 & x < 0 \end{cases}$

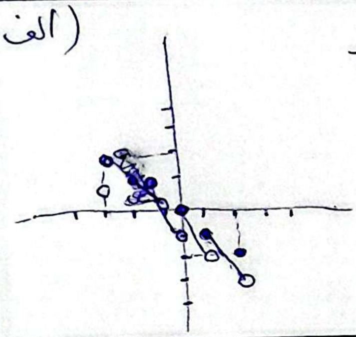


ب) $\begin{cases} x^2 - 1 & x > 0 \\ -x^2 + 1 & x < 0 \end{cases}$



۴

الف)



$-2 \leq x < -1 \rightarrow 2x - 2$

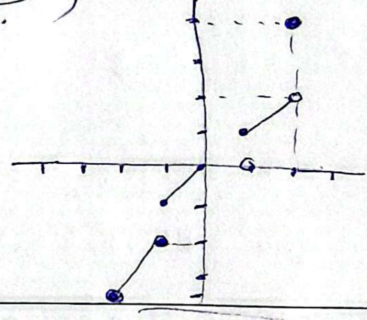
$-1 \leq x < 0 \rightarrow -2x - 1$

$0 \leq x < 1 \rightarrow -2x$

$1 \leq x < 2 \rightarrow -2x + 1$

$x = 2 \rightarrow \left| \begin{matrix} 2 \\ -2 \end{matrix} \right.$

ب)



$-3 \leq x < -1 \rightarrow -2|x|$

$-1 \leq x < 0 \rightarrow -|x|$

$0 \leq x < 1 \rightarrow 0$

$1 \leq x < 2 \rightarrow |x|$

$x = 2 \rightarrow \left| \begin{matrix} 2 \\ 4 \end{matrix} \right.$

۵

الف) $y = 3x - [3x] \quad 0 \leq \bigcirc - [\bigcirc] < 1 \quad R_f = [0, 1)$

ب) $y = 4(x - [x]) \quad R_f = [0, 4]$

ج) $y = x - 5\left[\frac{x}{5}\right] \quad y = 5\left(\frac{x}{5} - \left[\frac{x}{5}\right]\right) \quad R_f = [0, 5)$

د) $y = -(2x - [2x]) \quad R_f = (-1, 0]$

سؤال ۶ (د) $y=\sqrt{\cos x-2\sin x}$ $\quad -\sqrt{5}\leq -2\sin x+\cos x\leq\sqrt{5}$

$\xrightarrow{\sqrt{}}\quad 0\leq\sqrt{-2\sin x+\cos x}\leq\sqrt[4]{5}$ $\quad R_f=[0,\sqrt[4]{5}]$

عارضه مخفی الحمن

الف) $-\sqrt{3^2+2^2}\leq 3\sin x+2\cos x\leq\sqrt{3^2+2^2}$ $-\sqrt{13}\leq 3\sin x+2\cos x\leq\sqrt{13}$ $\quad R_f=[-\sqrt{13},\sqrt{13}]$ ب) $-\sqrt{25}\leq 4\sin x-3\cos x\leq\sqrt{25}$ $\quad -5 \quad 5$ $\quad R_f=[-5,5]$ ج) $-\sqrt{29}\leq 2\sin x+5\cos x\leq\sqrt{29}$ $[2\sin x+5\cos x]=\{-6,-5,\ldots,4,5\}$ $\quad R_f=\{-6,-5,-4,\ldots,5\}$	۶
الف) $y=\sin^2x+3\sin x+2$ $\sin x=\frac{-b}{2a}=\frac{-3}{2}$ $\quad f(-\frac{3}{2})=-\frac{1}{4}\ min$ ✗ $\sin x=1 \quad y=6$ $\sin x=-1 \quad y=0$ $\quad R_f=[0,6]$ ب) $y=2\sin^2x+3\sin x+2$ $\sin x=\frac{-b}{2a}=\frac{-3}{4}$ $\quad f(-\frac{3}{4})=\frac{14}{16}=\frac{7}{8}$ $\quad \sin x=1\ \ y=7$ $\quad \sin x=-1\ \ y=1$	۷
الف) $y=\sin^2x+4\cos^2x$ $y=1+3\cos^2x$ ($[0,3]$) $\longrightarrow R_f=[1,4]$ $\quad R_f=[\frac{7}{8},7]$ ب) $y=\frac{2\cot x}{\frac{1}{\sin^2x}}$ $\quad 2\cot x\times\sin^2x=2\sin x\cos x=\sin 2x$ $-1\leq\sin x\leq1\longrightarrow R_f=[-1,1]$	۸
الف) $y=\sin^6x+\cos^6x$ $\frac{1}{4}\leq\sin^6x+\cos^6x\leq1$ $\quad R_f=[\frac{1}{4},1]$ ب) $y=[\sin^8x+\cos^8x]$ $2^{1-4}=2^{-3}\leq\sin^8x+\cos^8x\leq1$ $\quad (\frac{1}{2})^3\leq\sin^8x+\cos^8x\leq1$ $\quad \frac{1}{8}$ $[\sin^8x+\cos^8x]=\{0,1\}\Rightarrow R_f=\{0,1\}$	۹
الف) $y=\frac{(2x-1)(x+4)}{(x+4)}$ $\quad y=2x-1 \quad 2x=y+1 \quad x=\frac{y+1}{2}$ $x\neq-4\longrightarrow$ ج ≠ ۰ $\longrightarrow y\neq-9$ $\quad R_f=\mathbb{R}-\{-9\}$ ب) $y=\frac{(x-1)(x^2+x+1)}{(x-1)}$ $\quad y=x^2+x+1$ $\quad x_{min}=\frac{-b}{2a}=\frac{-1}{2}$ $\quad y_{min}=\frac{3}{4}$	۱۰

$R_f=[\frac{3}{4},+\infty)$