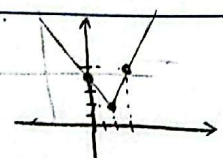
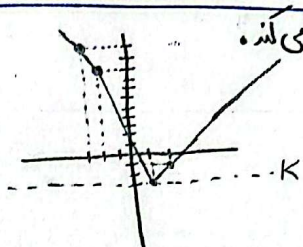


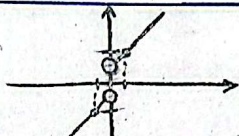
بسیارمین نمره - یازدهم پسر B - تکلیف شماره ۷

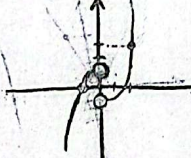
الف) $y = x + |2x - 4|$ $\Rightarrow$ $\begin{vmatrix} 1 & 2 & 3 \\ 0 & 2 & 4 \end{vmatrix} \Rightarrow R_f = [2, +\infty)$ 

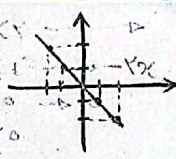
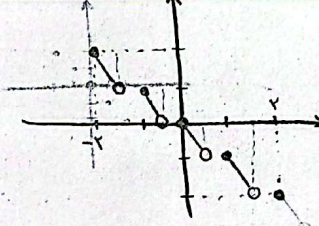
ب) $y = |x - 2| + |x - 1| - |x|$ $\Rightarrow$ $\begin{vmatrix} -1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 1 & 0 \end{vmatrix} \Rightarrow R_f = [-1, +\infty)$ 

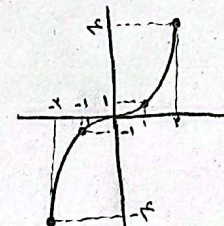
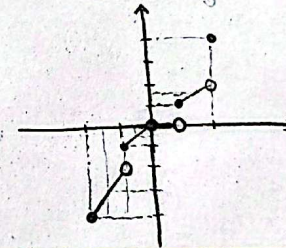
$|3x - 3| - |x + 2| = K$ $\begin{vmatrix} -3 & -2 & 1 & 2 \\ 11 & 9 & -3 & -1 \end{vmatrix}$  یک ریشه یکنوا، نمودار را قطع می کند.

$\Rightarrow K = -3$

الف) $x < 0 \Rightarrow x - 1$
 $x > 0 \Rightarrow x + 1$  $\begin{vmatrix} -1 & 1 \\ -2 & 2 \end{vmatrix}$ ۳

ب) $x < 0 \Rightarrow -x^2 + 1$
 $x > 0 \Rightarrow x^2 - 1$  $\begin{vmatrix} -1 & 1 \\ 0 & 3 \end{vmatrix}$

الف) $y = [x] - 2x$  $\Rightarrow$  ۴

ب) $y = [x] |x|$  $\Rightarrow$ 

$\begin{matrix} w \rightarrow x^2 \\ -z \rightarrow -x^2 \\ \mathbb{R} - z \rightarrow ? \end{matrix}$

الف) طبق نامگذاری $R_f = [0, 1)$ ۵

ب) $(x - [x]) \xrightarrow{K_x} [0, 1) \Rightarrow R_f = [0, 4)$

ج) $\Delta(\frac{x}{\Delta} - [\frac{x}{\Delta}]) \xrightarrow{\Delta x} [0, 1) \Rightarrow R_f = [0, \Delta)$

د) $-(2x - [2x]) \xrightarrow{-1x} [0, 1) \Rightarrow R_f = (-1, 0]$

④

الف) $\pm \sqrt{9+4} = \pm \sqrt{13} \Rightarrow R_f = [-\sqrt{13}, \sqrt{13}]$ / $-\sqrt{a^2+b^2} \leq a \sin x + b \cos x \leq \sqrt{a^2+b^2}$

ب) $\pm \sqrt{9+16} = \pm 5 \Rightarrow R_f = [-5, 5]$

2.) $\pm \sqrt{4+25} = \pm \sqrt{29} \Rightarrow [-\sqrt{29}, \sqrt{29}] \Rightarrow R_f = \{-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5\}$

3.) $\pm \sqrt{1+4} = \pm \sqrt{5} \Rightarrow [-\sqrt{5}, \sqrt{5}] \Rightarrow R_f = [0, \sqrt{5}]$

الف) $R_f = [-5, 6]$

ب) $R_f = [\frac{9}{\lambda}, 7]$

⑤

الف) $\cos^2 x + 1 \Rightarrow R_f = [1, 2]$

ب) $\frac{\cos x}{\sin x} = \cot x \Rightarrow R_f = [-1, 1]$

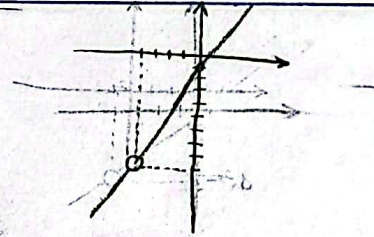
⑥

الف) $\frac{1}{2} \leq \sin^2 x + \cos^2 x \leq 1 \Rightarrow R_f = [\frac{1}{2}, 1]$ (الف)

ب) $\frac{1}{2} \leq \sin^2 x + \cos^2 x \leq 1 \Rightarrow [\frac{1}{2}, 1] \Rightarrow R_f = \{0, 1\}$

⑦

الف) $\frac{-1 \pm \sqrt{1+4}}{2} \Rightarrow \frac{-1 \pm \sqrt{5}}{2} \Rightarrow R_f = \mathbb{R} \setminus \{-1\}$



⑧

ب) $y = \frac{(x-1)(x^2+x+1)}{(x-1)} = x^2+x+1 \Rightarrow \min \left| \frac{-1}{2} \right| \Rightarrow R_f = [\frac{3}{4}, +\infty)$