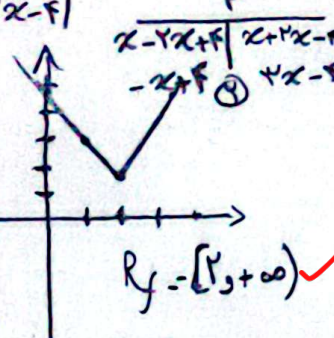


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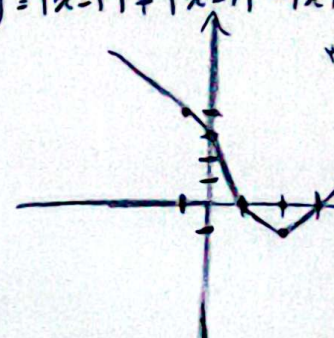
نام و نام خانوادگی: امیرحسین مرعشی پاسخنامه تشریحی تکلیف شماره ۱۷۰ کلاس: یازدهم

الف) $y = x + |2x - 4|$



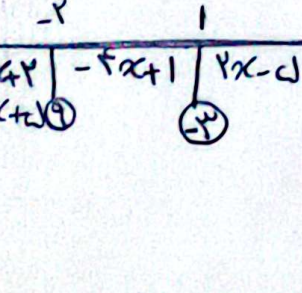
$R_f = [2, +\infty)$ ✓

ب) $y = |x - 2| + |x - 1| - |x|$



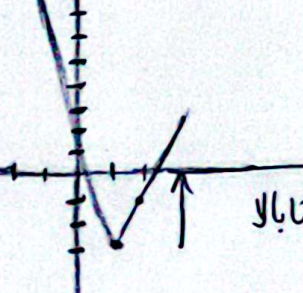
$R_f = [-1, +\infty)$ ✓

الف) $y = x + \frac{x}{|x|}$



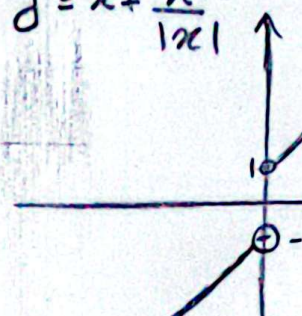
✓

ب) $y = x|x| - \frac{x}{x} \rightarrow$



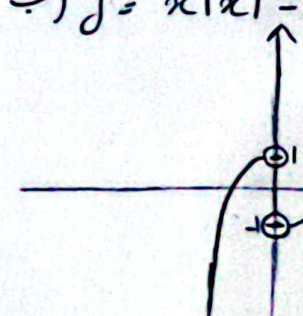
✓

الف) $y = x + \frac{x}{|x|}$



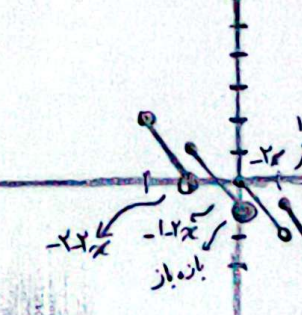
✓

ب) $y = x|x| - \frac{x}{x} \rightarrow$



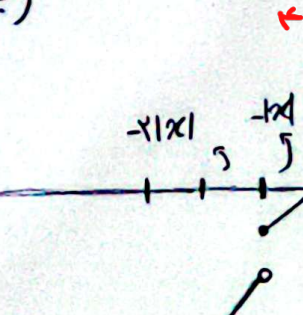
✓

الف) $y = x + \frac{x}{|x|}$



✓

ب) $y = x|x| - \frac{x}{x} \rightarrow$



✓

الف) $R_f = [0, 1]$ ✓

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

ج) $R_f = [0, 4)$ ✓

د) $R_f = (-1, 0]$ ✓

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الف) $y = 3\sin x + 2\cos x$

د) $R_f = [0, \sqrt{13}]$ ✓

$-\sqrt{13} \leq 3\sin x + 2\cos x \leq \sqrt{13}$ ✓

ب) $-1 \leq 4\sin x - 3\cos x \leq 1$ ✓

ج) $-\sqrt{29} \leq 2\sin x + 4\cos x \leq \sqrt{29} \Rightarrow R_f \rightarrow \{-4, -3, -2, -1, 0, 1, 2, 3, 4\}$ ✓

الف) $y = \sin^2 x + 3\sin x + 2$

$y = \sin^2 x + 3\sin x + 2$

$\sin=1 \rightarrow y=6$

$\frac{\sin 1}{\sin 1} y = 1$

$\sin=-1 \rightarrow y=0$

$\frac{\sin -1}{\sin -1} y = 1$

$\sin=\frac{2}{3} \rightarrow y=-\frac{1}{3}$

$\frac{\sin -\frac{2}{3}}{\sin -\frac{2}{3}} y = \frac{1}{3}$

$R_f = [0, 6]$

$R_f = [\frac{1}{3}, 1]$ ✓

الف) $y = \sin^2 x + 4\cos^2 x$

ب) $y = \frac{4\cot x}{1+\cot^2 x} = \frac{4\cos x}{\sin x} = 4\cos x \sin x$

$\rightarrow y = \sin^2 x + 4 - 4\sin^2 x = 4 - 3\sin^2 x$

$\rightarrow R_f = [1, 4]$ ✓

$R_f = [-1, 1]$ ✓

$y = \sin^2 x + \cos^2 x \Rightarrow R_f = [\frac{1}{4}, 1]$ ✓

$\rightarrow y^{1-k} \leq \sin^{2k} x + \cos^{2k} x \leq 1$

ب) $\rightarrow [\sin^1 + \cos^1]$

$R_f = \{0, 1\}$ ✓

$\sin^1 + \cos^1 \rightarrow [\frac{1}{2}, 1]$

$y = \frac{2x^2 + 7x - 4}{x+4} = \frac{(2x-1)(x+4)}{x+4} = 2x-1$ $R_f = \mathbb{R} - \{-1\}$ ✓

$y = \frac{x^2-1}{x-1} = \frac{(x-1)(x+1)}{x-1} = x+1$ $R_f = [\frac{3}{4}, +\infty)$ ✓

$f_{11} = f_{12} = 3$

سهم است و 3 حذف می‌شود