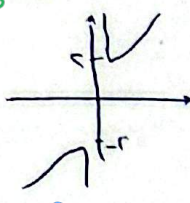
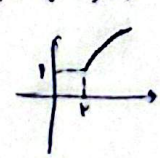
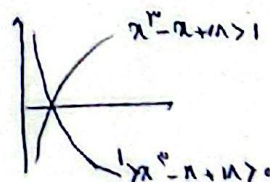
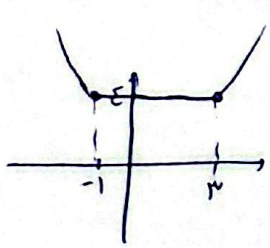
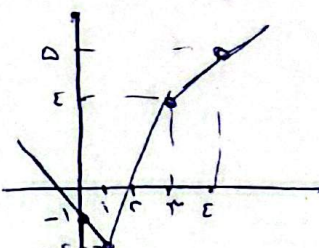
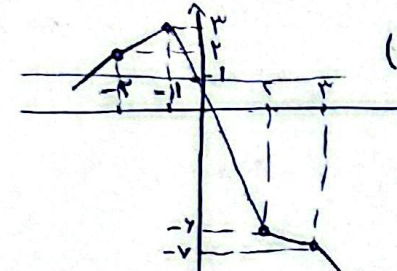
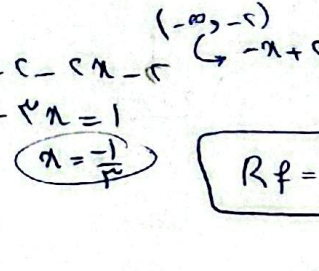
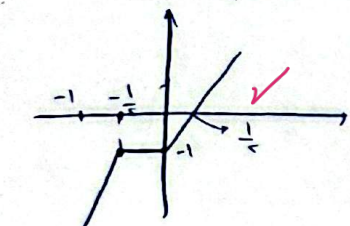
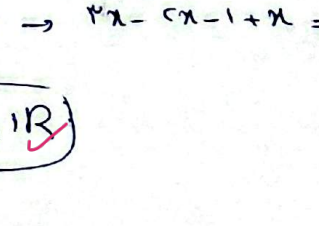
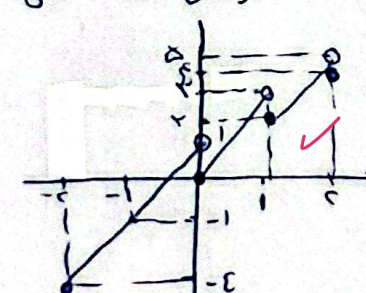
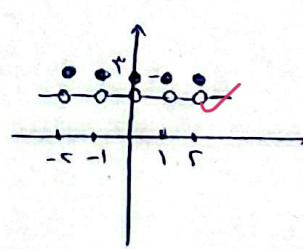
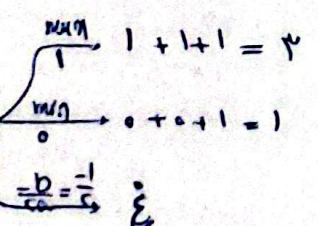
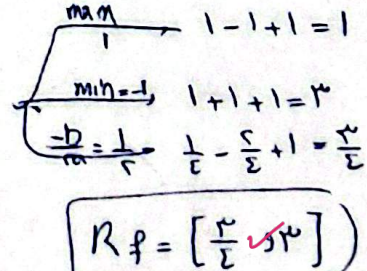


نام و نام خانوادگی: (امیرحسین) (خانی) ... پاسنامه تشریحی تکلیف شماره ۵ ... کلاس: دوازدهم ... دبیر: A ...

(ب) $y = \frac{x^2+1}{ x } = \underbrace{ x }_{a>0} + \frac{1}{ x }$ $x \rightarrow$ می تواند ۱ شود $R_f = \mathbb{R} - (-1, 1)$ $\begin{cases} a>0 & a+\frac{1}{a} \geq 2 \\ a<0 & a+\frac{1}{a} \leq -2 \end{cases}$ $R_y = [2, +\infty)$ 	(الف) $y = \frac{ x +1}{ x -2} \rightarrow$ خارج صفر نشود! (بیرون باشد) $\begin{matrix} \max & 1 \\ +\infty & \\ \min & -1 \\ 0 & \end{matrix}$ $R_f = \left[\frac{1}{-1}, 1 \right)$ $R_y = (-\infty, -\frac{1}{2}] \cup (1, +\infty)$	۱
$y = \frac{x^2+2x-2}{x+2} \rightarrow yx+2y = x^2+2x-2 \rightarrow x^2+(2-y)x-2y-2=0$ $x = \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{(y-2) \pm \sqrt{y^2-4y+8-2(2y-2)}}{2} = \frac{y-2 \pm \sqrt{y^2-4y+12}}{2}$ $y^2-4y+12 \geq 0 \rightarrow (y+2)(y-6) \geq 0$ $R_f = \mathbb{R} - (-2, 6)$	۲	
$f(x) = \frac{x^2-x+\frac{1}{2}}{x^2-x+1} \rightarrow \Delta < 0$ $D_f = \mathbb{R}$ $yx^2-yx+y = x^2-x+\frac{1}{2} \rightarrow (y-1)x^2+(1-y)x+y-\frac{1}{2}=0$ $\frac{y-1}{2} \pm \sqrt{\frac{(y-1)^2-4(y-\frac{1}{2})(y-1)}{4}} = \frac{y-1 \pm \sqrt{(y-1)(y-\frac{1}{2})}}{2y-1}$ $2y-1 \neq 0 \rightarrow y \neq \frac{1}{2}$ $R_f = \mathbb{R} - \left(\frac{1}{2}, 1 \right)$ صفحه آفر...	۱	
(ب) $y = \sqrt[3]{x^3-1}$ $x_0 = \frac{-b}{2a} = \frac{1}{2} = 2 \rightarrow y_0 = \sqrt[3]{1-1} = 0$ $R_f = [-1, +\infty)$	(الف) $y = \sqrt{-x^2+2x-1}$ $\frac{-b}{2a} = \frac{-2}{-2} = 1 \rightarrow y_0 = \sqrt{-1+2-1} = 0$ $R_f = [0, \sqrt{3}]$	۲
(ب) $y = \log_r \left(\frac{x^2+1}{x} \right)$ $\frac{x^2+1}{x} = x + \frac{1}{x} \rightarrow R = \mathbb{R} - (-1, 1)$ $R_f = [1, +\infty)$ 	(الف) $y = \log(x^2-x+1)$ $D_f = \mathbb{R}$ $R_f = \mathbb{R}$ $x^2-x+1 > 0$ 	۲

$y = x-1 + x+1 $  $R_f = [ε, +∞)$	$y = x-1 - x-1 $  $R_f = [-ε, +∞)$	٢ ٦
$ x-1 - x+1 \leq 1$  $R_f = (-∞, -1/2] \cup [1/2, +∞)$	$ x-1 - x+1 \leq 1$  $R_f = (-∞, -1/2] \cup [1/2, +∞)$	٢ ٧
$y = 3x - x+1 + x $  $R_f = IR$	$y = 3x - x+1 + x $  $R_f = IR$	٢ ٨
$y = 3x - [x]$  $R_f = [-ε, 0)$	$y = [x] + [-x] + 3$  $R_f = \{1, 2\}$	٢ ٩
$y = \sin^2 x + \sin^2 x + 1$  $R_f = [1, 2]$	$y = \sin^2 x - \sin^2 x + 1$  $R_f = [1/2, 2]$	٢ ١٠

۳- مخزج کسر عوارض نسبت است پس دامنه IR است

$$f(n) = \frac{(n - \frac{1}{4})^2}{(n - \frac{1}{4})^2 + \frac{3}{4}}$$

طرفین واصل $\rightarrow yn^2 - yn + y = n^2 - n + \frac{1}{4} \rightarrow (y-1)n^2 - (y-1)n + y - \frac{1}{4} = 0$

$$n = \frac{y-1 \pm \sqrt{(y-1)^2 - 4(y-1)(y-\frac{1}{4})}}{2(y-1)} \rightarrow \Delta \geq 0 \rightarrow (y-1)(y-1-4y+1) \geq 0$$

$\Rightarrow y = [0, 1]$

غیرب n نباید صفر شود یعنی $y \neq 1$ است

و تابع در انزای هیچ قدری برابر نیست پس برد برابر است با: $R_y = [0, 1)$

میتوانست از روش مربع هم استفاده کنیم

$$f(n) = \frac{\square^2}{\square^2 + \frac{3}{4}}$$