

۱۷,۲۵

نام و نام خانوادگی: بنیامین نوری پاسخنامه تشریحی تکلیف شماره ۵ کلاس: دوازدهم اسم

الف) $\frac{x+1}{x+2}$ $\xrightarrow{+ \infty}$ $\frac{\infty}{\infty} = 1$ $\xrightarrow{0}$ $\frac{1}{\frac{1}{2}} = 2$

$R_f = [2, 4]$

مخرج بی‌نهایت
(بیرون بازه)

ب) $x=0$ $x>0 \rightarrow \frac{x^2+1}{x} = x + \frac{1}{x}$ $x<0 \rightarrow \frac{x^2+1}{-x} = -x + \frac{1}{-x} \rightarrow R_f = (-\infty, -1] \cup [1, +\infty)$

$\Rightarrow R_T = (-\infty, -1] \cup [1, +\infty)$

صفحه آخر...

$y = \frac{x^2+12x-2}{x+3}$ $\xrightarrow{\text{درجه صورت نیست}}$ $y(x+3) = x^2+12x-2 \rightarrow x^2+(3-y)x-2-3y=0$

$\frac{-(3-y) \pm \sqrt{(3-y)^2 + 4(2+3y)}}{2} \geq 0$

$R_f = \mathbb{R} - (-5, -2)$

$D_f = ? \xrightarrow{0 \neq 0} x^2-x+1 \neq 0$ $\Delta < 0 \rightarrow \text{همیشه مثبت}$ $D_f = \mathbb{R}$

$R_f = ? \rightarrow y = \frac{x^2-x+\frac{1}{x}}{x^2-x+1}$ $\xrightarrow{\text{ضرب در مخرج}}$ $(1-y)x^2 - (1-y)x + \frac{1}{x} - y = 0$

$\sqrt{\Delta} \geq 0 \rightarrow 1+y^2-2y-4y^2-1+4y = -3y^2+2y \geq 0 \rightarrow \frac{0}{-3} \leq \frac{1}{3} \rightarrow R_f = [0, 1] - \{1\} = [0, 1)$

الف) $\frac{-b}{2a} = \frac{-4}{2} = -2$ $\frac{-4+8-1}{2} = \frac{3}{2}$ $\xrightarrow{a < 0} R_f = \sqrt{(-\infty, 3]} = [-\infty, 3]$

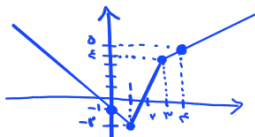
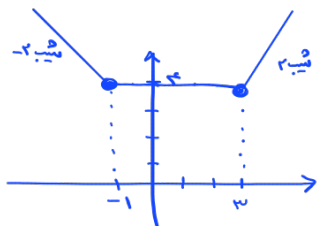
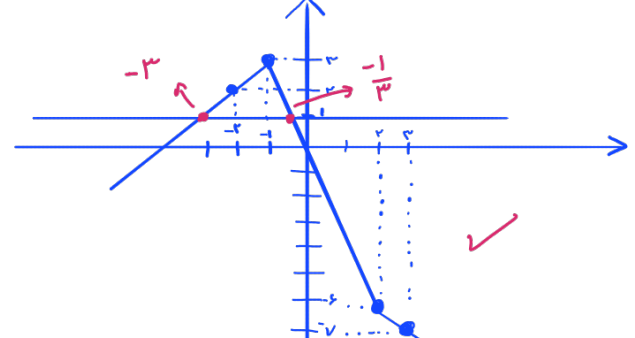
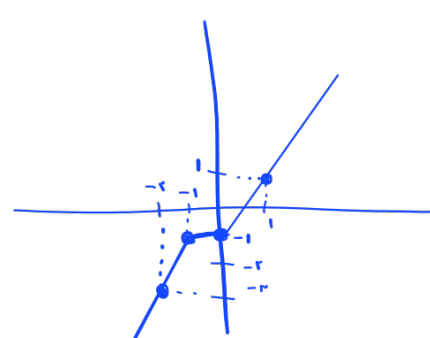
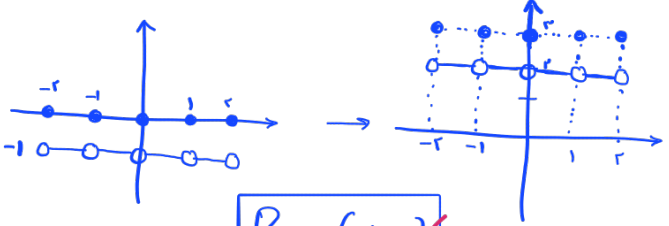
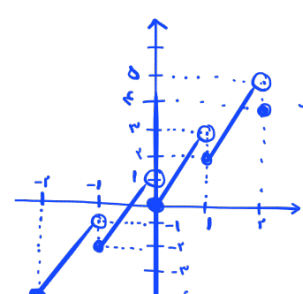
ب) $\frac{-b}{2a} = \frac{1}{2} = \frac{1}{2}$ $1-1/2 = \frac{1}{2}$ $\xrightarrow{a > 0} R_f = \sqrt{[1, +\infty)} = [1, +\infty)$

الف) $x^2-x+1 \rightarrow R = \mathbb{R}$

$\log^{(-\infty, +\infty)} = \log^{(0, +\infty)} \rightarrow R_f = (-\infty, +\infty)$

ب) $x + \frac{1}{x} \rightarrow R = (-\infty, -1] \cup [1, +\infty)$

$\log^R = \log_r^{[1, +\infty)} = [1, +\infty)$

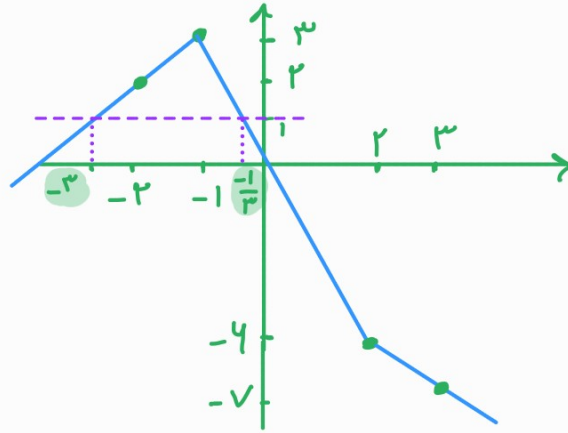
الف) $y = x-2 - x-3 \rightarrow$ رسمها ۱ و ۳ $\begin{vmatrix} 0 & 1 & 3 & 4 \\ -1 & -2 & 1 & 5 \end{vmatrix}$  $R_f = [-1.5, +\infty)$	ب) $x-3 + x+1$ نقطه تیز یا رسم بلدانی  $R_y = [3, +\infty)$ ۶
$y = x-2 - x+2$ $\begin{vmatrix} -2 & -1 & 2 & 3 \\ 2 & 3 & -6 & -1 \end{vmatrix}$  $x-2 - x+2 \leq 1$ $(-\infty, 3]$ ۷	۱.۵ ۷
$y = 3x - 2x+1 + x$ $\begin{vmatrix} -1 & \frac{1}{2} & 0 & 1 \\ -3 & -1 & -1 & 1 \end{vmatrix}$  $R_f = \mathbb{R}$ ۸	۲ ۸
الف) $[x] + [3-x] = [x] + [-x] + 3$  $R_f = \{2, 3\}$	ب) $3x - [x]$  $R_f = [-1.5, 5)$ ۹
الف) $\sin^2 x - \sin x + 1$ $\sin x = \square$ $1 \rightarrow 1 - 1 + 1 = 1$ $-1 \rightarrow 1 + 1 + 1 = 3$ $\frac{1}{\sqrt{2}} = \frac{1}{2} \rightarrow \frac{1}{\sqrt{2}} - \frac{1}{2} + 1 = \frac{3}{2}$ $R_f = [\frac{3}{2}, 3]$	ب) $\frac{\sin^2 x}{\square} + \frac{\sin^2 x}{\square} + 1$ $R_f = [1.5, 3]$ ۱۰

الف) $\square = |n| \rightarrow \begin{cases} |n| = 0 \rightarrow y = \frac{-1}{2} \\ |n| = +\infty \rightarrow y = 1 \end{cases} \xrightarrow[\text{مفردة}]{\text{محددة بيوتنة}} R_y = (-\infty, \frac{-1}{2}] \cup (1, +\infty) - 1$

ب) $y = |n| + \frac{1}{|n|} \xrightarrow[\frac{a + \frac{1}{a} \geq 2}{a > 0}]{} |n| + \frac{1}{|n|} \geq 2 \rightarrow R_y = [2, +\infty)$

$$\begin{cases} -n-2 & n \geq 2 \\ -3n & -1 \leq n \leq 2 \\ n+2 & n \leq -1 \end{cases}$$

$$R_y = (-\infty, -3] \cup [\frac{-1}{2}, +\infty)$$



-V