

دوازدهم دفتر B

تالیف شماره ۵

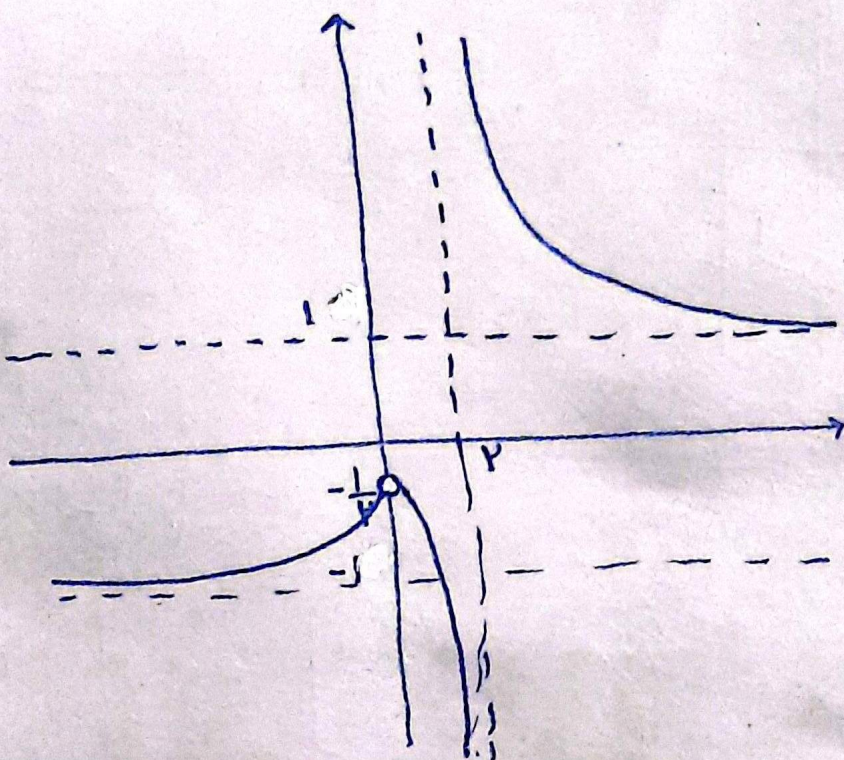
فرزاد آقایی

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$$x > 0 \rightarrow \frac{x+1}{x-2}$$

$$x < 0 \rightarrow \frac{-x+1}{-x-2} = \frac{x-1}{x+2}$$

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



$$\frac{x^2+1}{|x|}$$



$$|x| + \frac{1}{|x|} \rightarrow [1, +\infty) = R_f$$

$$\frac{x^2+x-1}{x+1} = x-1 + \frac{1}{x+1} \rightarrow t=x+1 \rightarrow t-1 + \frac{1}{t} = y \rightarrow y-1 = t + \frac{1}{t} - 1$$

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

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

$$D_f = x^2 - x + 1 \rightarrow \Delta < 0 \rightarrow D = \mathbb{R}$$

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$$R_f \Rightarrow \frac{(x - \frac{1}{f})^2}{(x - \frac{1}{f})^2 + \frac{1}{f}} = \frac{t}{t + \frac{1}{f}} = y \rightarrow y t + \frac{1}{f} y = t \rightarrow t = \frac{\frac{1}{f} y}{1 - y}$$

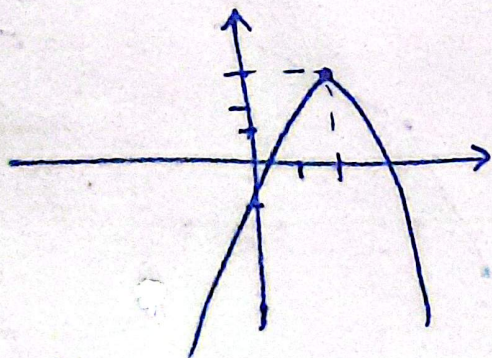
$$x = \pm \sqrt{\frac{\frac{1}{f} y}{1 - y}} + \frac{1}{f}$$

$$\frac{\frac{1}{f} y}{1 - y} \geq 0 \rightarrow \frac{0}{-1 + 1} = -$$

$$[0, 1) = R_f$$

ii) $-x^2 + x - 1 = y \rightarrow \text{ext} \left| \begin{array}{l} -\frac{b}{2a} = \frac{-1}{-2} = \frac{1}{2} \\ -1 + \frac{1}{2} - 1 = -\frac{3}{2} \end{array} \right.$

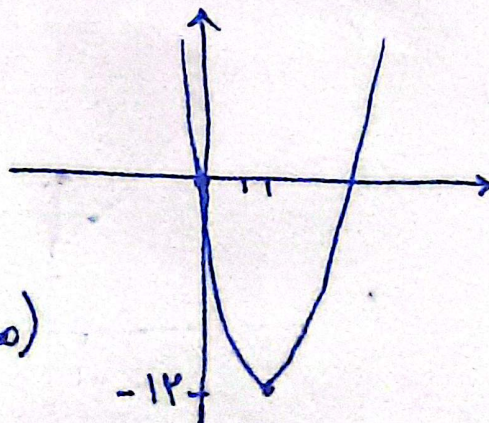
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$$R_f = (-\infty, \frac{1}{f}] \xrightarrow{\sqrt{\quad}} [0, \sqrt{\frac{1}{f}}] = R_f$$

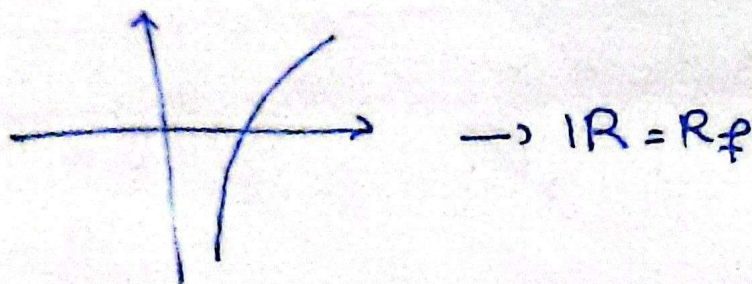
i) $\sqrt{1 - x^2} \rightarrow \text{ext} \left| \begin{array}{l} -\frac{b}{2a} = \frac{0}{2} = 0 \\ 1 - 0 = 1 \end{array} \right.$

$$R_f = [-1, +\infty) \xrightarrow{\sqrt{\quad}} [-1, +\infty)$$



الف) $x^2 - x + 18 > 0 \rightarrow \Delta < 0$ همیشه مثبت

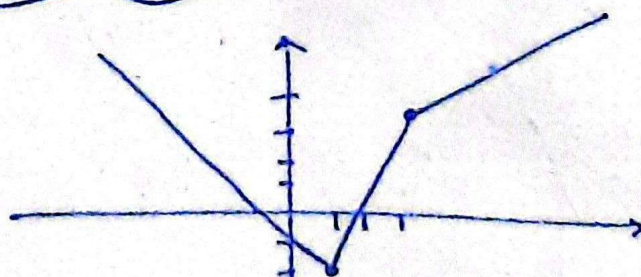
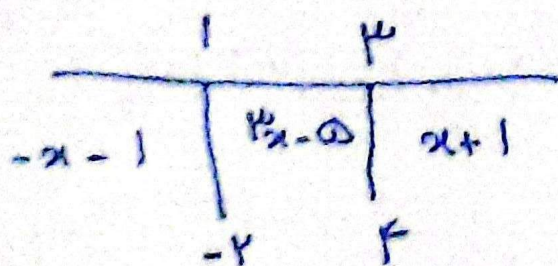
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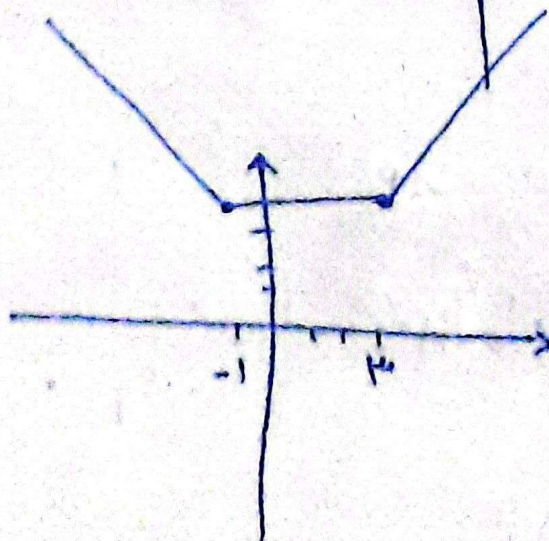
ب) $\frac{x^2+1}{x} > 0 \rightarrow x + \frac{1}{x} > 0 \rightarrow (2, +\infty) \xrightarrow{\log} (1, +\infty) = R_f$

الف)

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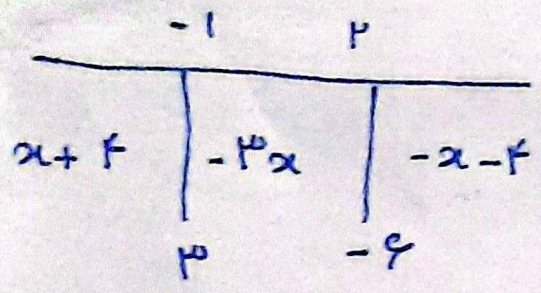


$R_f = [-2, +\infty)$



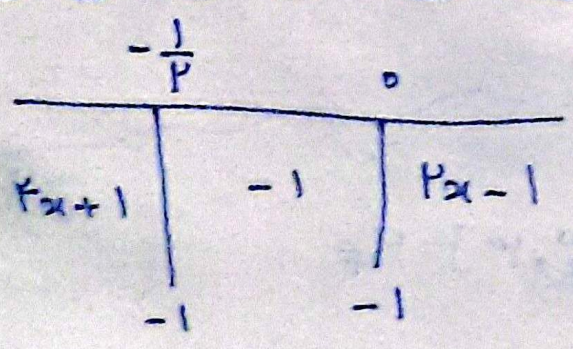
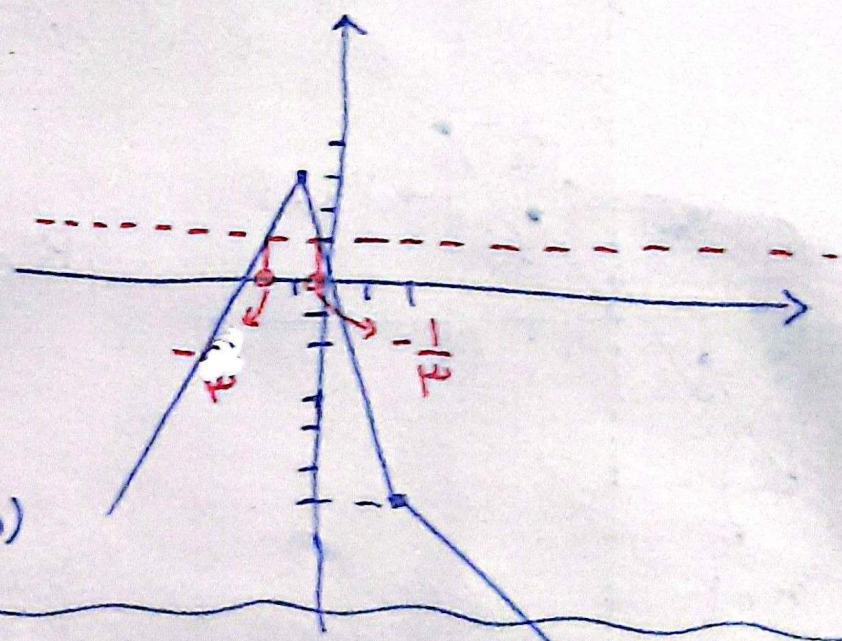
ب) تابع گسسته

$R_f = [2, +\infty)$

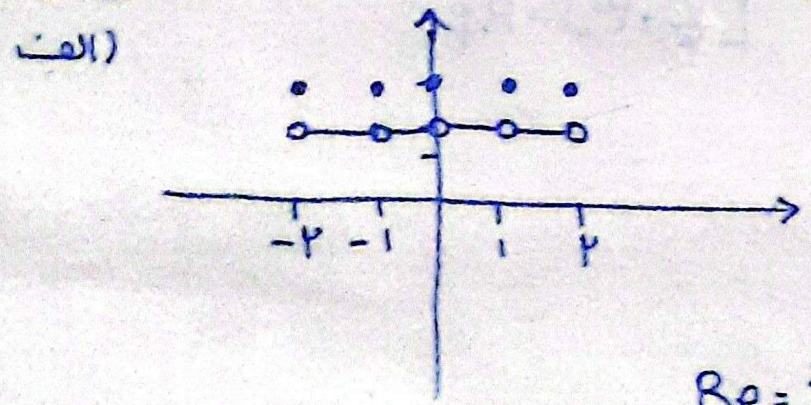
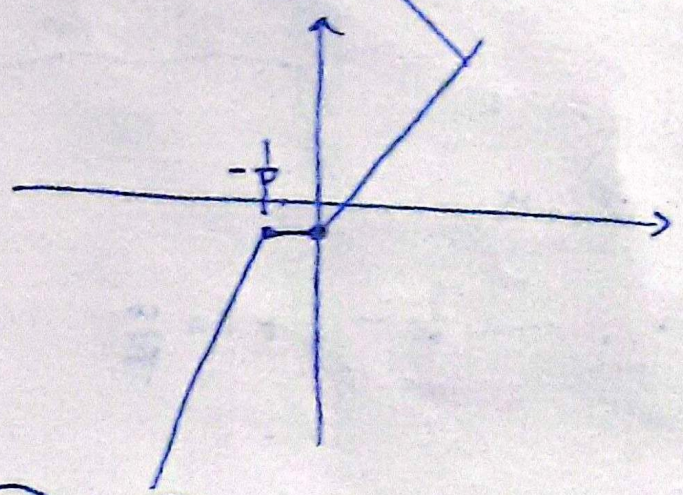


$-1/x = 1 \rightarrow x = -1/p$
 $x + 1 = +1 \rightarrow x = -p$

$R_f = (-\infty, -1/p] \cup [-p, +\infty)$



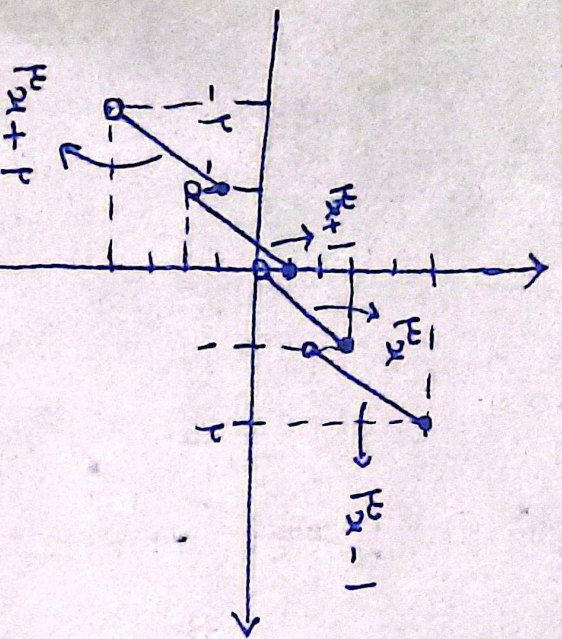
$R_f = \mathbb{R}$



$R_f \begin{cases} x \in \mathbb{Z} \rightarrow R_f = p \\ x \notin \mathbb{Z} \rightarrow R_f = 1 \end{cases}$

$R_f = \{p, 1\}$

1.7)



$$R = (-k, \Delta)$$

1.8) 1, 1

$$-1 \rightarrow y$$

$$\frac{-b}{k_a} = \frac{1}{p} \rightarrow \frac{1}{p} - \frac{1}{p} + 1 = \frac{p}{p}$$

$$\left[\frac{p}{p}, y \right] = R_f$$

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1.9) 1, y

~~1, y~~

$$\left[\frac{1}{p}, y \right] = R_f$$