

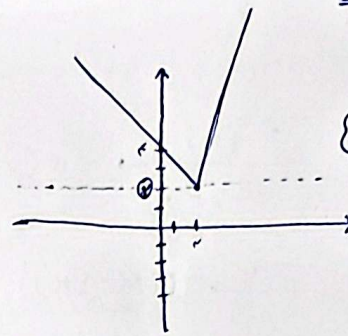
یازدهم سیر B

معین نصیری

تالیف شماره ۷

الف) $y = x + |2x - 4|$

$$\frac{y}{-2x+4} \quad \begin{array}{c} 2 \\ 3x-4 \end{array}$$

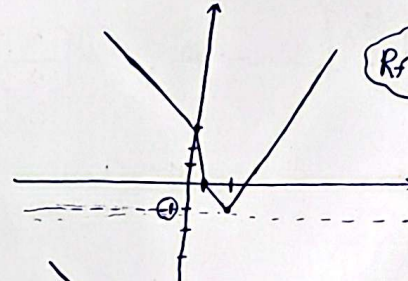


$R_f = [2, +\infty)$

(1)

ب) $y = |x-2| + |x-1| - |x|$

$$\frac{y}{-x+2} \quad \begin{array}{c} 0 \\ 1 \\ 2 \end{array} \quad \begin{array}{c} -x+3 \\ -x+1 \\ x-3 \end{array}$$



$R_f = [-1, +\infty)$

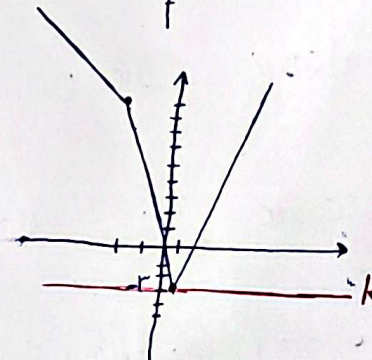
(2)

$|3x-3| - |x+2| = k$

یک ریشه دارد یعنی! بار جذری کند یا این

$k = -3 \Rightarrow$ تابع

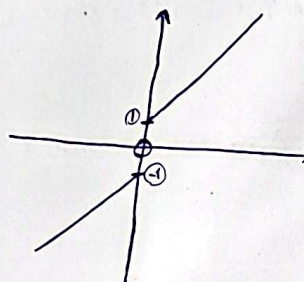
$$\frac{y}{-2x+5} \quad \begin{array}{c} -2 \\ 1 \end{array} \quad \begin{array}{c} -2x+5 \\ -x+1 \\ 2x-5 \end{array}$$



(3)

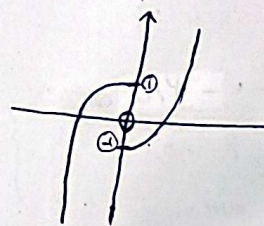
الف) $y = x + \frac{x}{|x|}$

$$\frac{y}{x-1} \quad \begin{array}{c} 0 \\ 1 \end{array} \quad \begin{array}{c} x-1 \\ x+1 \end{array}$$

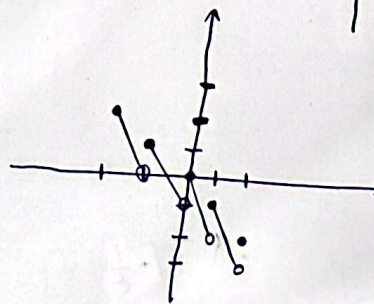


ب) $y = x|x| - \frac{x}{|x|}$

$$\frac{y}{-x^2+1} \quad \begin{array}{c} 0 \\ 1 \end{array} \quad \begin{array}{c} -x^2+1 \\ x^2-1 \end{array}$$

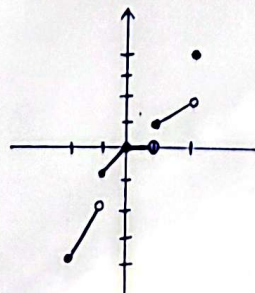


الف) $y = [x] - 2x$



(4)

ب) $y = [x]|x|$



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$$الف) y = 2x - [2x] \xrightarrow{\text{تابع سر بالا}} 0 \leq 2x - [2x] < 1 \rightarrow R_f = [0, 1)$$

$$ب) y = 4x - 4[x] \xrightarrow{\text{تابع سر بالا}} 4(2x - [2x]) \rightarrow R_f = [0, 4)$$

$$ج) y = x - \omega \left[\frac{x}{\omega} \right] \xrightarrow{\text{تابع سر بالا}} \omega \frac{x}{\omega} - \omega \left[\frac{x}{\omega} \right] \xrightarrow{\text{تابع سر بالا}} \omega \left(\frac{x}{\omega} - \left[\frac{x}{\omega} \right] \right) \rightarrow R_f = [0, \omega)$$

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

$$الف) y = 3 \sin x + 2 \cos x \rightarrow -\sqrt{13} \leq 3 \sin x + 2 \cos x \leq \sqrt{13} \rightarrow R_f = [-\sqrt{13}, \sqrt{13}]$$

$$ب) y = 5 \sin x - 3 \cos x \rightarrow -\sqrt{34} \leq 5 \sin x - 3 \cos x \leq \sqrt{34} \rightarrow R_f = [-\sqrt{34}, \sqrt{34}]$$

$$ج) y = [x \sin x + \omega \cos x] \rightarrow [-\sqrt{17}, 3 \sin x + \omega \cos x, \sqrt{17}] \rightarrow R_f = \{-\sqrt{17}, -\omega, -\epsilon, \dots, 3, \epsilon, \omega\}$$

$$د) y = \sqrt{\cos x - 2 \sin x} \rightarrow -\sqrt{5} \leq \cos x - 2 \sin x \leq \sqrt{5} \rightarrow R_f = [0, \sqrt{5}]$$

$$الف) y = \sin^2 x + 3 \sin x + 2 \rightarrow \sin x \rightarrow -1 \leq \sin x \leq 1 \rightarrow -\frac{5}{4} \leq y \leq \frac{5}{4}$$

$$\sin x = -\frac{3}{4} \rightarrow \text{min}$$

$$\sin x = 1 \rightarrow \text{max}$$

$$\sin x = -1 \rightarrow \text{min}$$

$$R_f = [0, 4]$$

$$ب) y = 2 \sin^2 x + 3 \sin x + 2$$

$$\sin x = -\frac{3}{4} \rightarrow \text{min}$$

$$\sin x = 1 \rightarrow \text{max}$$

$$\sin x = -1 \rightarrow \text{min}$$

$$R_f = \left[\frac{1}{4}, 4 \right]$$

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الف) $y = \sin^2 x + \epsilon \cos^2 x \rightarrow \sin^2 x + \epsilon \cos^2 x + 1 \rightarrow \begin{cases} \cos^2 x = 0 \rightarrow \min = 1 \\ \cos^2 x = 1 \rightarrow \max = \epsilon \end{cases} \quad R_f = [1, \epsilon]$ (1)

ب) $y = \frac{\cos^2 x}{(1 + \cos^2 x)} = \frac{\cos^2 x}{\frac{1}{\sin^2 x}} \rightarrow \cos^2 x \sin^2 x \rightarrow \sin^2 x \rightarrow R_f = [-1, 1]$

الف) $y = \sin^2 x + \cos^2 x \rightarrow \frac{1}{\epsilon} \leq \sin^2 x + \cos^2 x \leq 1 \rightarrow R = [\frac{1}{\epsilon}, 1]$ (9)

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

الف) $y = \frac{x^2 + 7x - 6}{x + 6} \rightarrow \frac{(x-1)(x+6)}{(x+6)} = x-1$

$R_f = R - \{-2\}$

ب) $y = \frac{x^2 - 1}{x - 1} \rightarrow \frac{(x-1)(x+1)}{x-1} = x+1$

$-\frac{1}{\epsilon}$

$a > 0$
↓
min

$R_f = [\frac{r}{\epsilon}, +\infty)$

