

۱۷, ۵

طاهه و جریان اعصاب - یازدهم پسر - تالیف ۶

مرتبه فرد $y = x^3 - 3x^2 + 3x \rightarrow x(x^2 - 3x + 3) \rightarrow Rf = R \checkmark$ (۲) ۱-

$y = \frac{1}{x^2 - 2x} \rightarrow yx^2 - 2xy - 1 = 0 \rightarrow fy^2 + fy \geq 0 \xrightarrow{-1, 0} \begin{array}{c|c} -1 & 0 \\ \hline + & - \\ \hline 0 & 0 \end{array}$
 $\checkmark Rf = R_+ - (-1, 0)$

$x^2 - 4x + 1 \rightarrow \frac{-b}{2a} = \frac{4}{2} = 2, 4 - 1 + 1 = 4 = y_{min} \rightarrow Rf = [4, +\infty) \checkmark$ (۲) ۲-

$-x^2 + 4x + 3 \rightarrow \frac{-b}{2a} = \frac{-4}{-2} = 2, -9 + 16 + 3 = 10 = y_{max} \rightarrow Rf = (-\infty, 10] \checkmark$

$\sqrt{x^2 - 4x - 3} \rightarrow x^2 - 4x - 3 \rightarrow \frac{-b}{2a} = \frac{4}{2} = 2, 4 - 8 - 3 = -7 = y_{min}$
 $\Rightarrow Rf = [-7, +\infty) \xrightarrow{\text{رایج}} [0, +\infty) \checkmark$

$\sqrt{4x - x^2} \rightarrow -x^2 + 4x \rightarrow \frac{-b}{2a} = \frac{-4}{-2} = 2, -9 + 16 = 9 = y_{max}$
 $\Rightarrow Rf = (-\infty, 9] \xrightarrow{\text{رایج}} [0, 9] \checkmark$

$x^3 - 5x^2 + 2x + 1 \rightarrow$ مرتبه فرد $\rightarrow Rf = R \checkmark$ (۲) ۳-

$x^4 - 4x^3 + 3x^2 + 2 \rightarrow$ مرتبه زوج $\rightarrow Rf = R \checkmark$

$\sqrt{x^4 - 4x^3 + 3x^2 + 1} \rightarrow$ مرتبه زوج $\rightarrow Rf = R \xrightarrow{\text{رایج}} [0, +\infty) \checkmark$

$(x^5 - 4x^4 + 3x^3 + 1)^2 \rightarrow R_+ \rightarrow$ مرتبه زوج $\rightarrow$ توان ۲ $\rightarrow [0, +\infty) \checkmark$

$$y = \frac{3x+1}{x-2} \rightarrow R_1 = \{2\} \rightarrow \frac{3}{1} \checkmark \quad (2) \quad \text{ع}$$

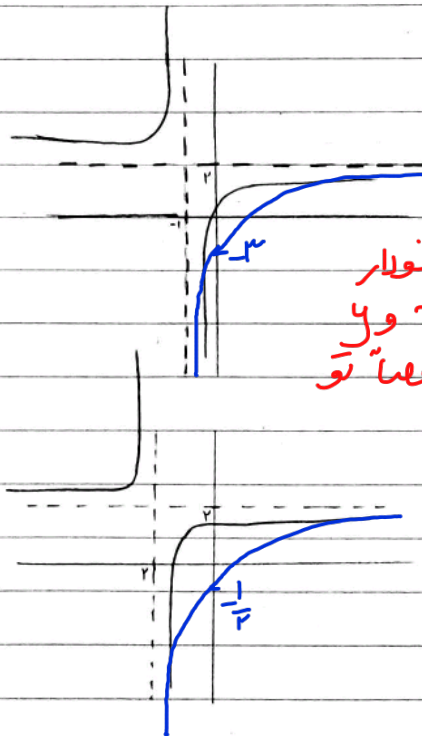
$$y = \frac{2x+1}{x+1} \rightarrow R_1 = \{-1\} \rightarrow \frac{2}{1} \checkmark$$

$$y = \sqrt{\frac{2x+1}{x+1}} \rightarrow \frac{2x+1}{x+1} \rightarrow R_1 = \{\frac{1}{2}\} \xrightarrow{\text{رابطه}} [0, +\infty) - \{\sqrt{2}\} = Rf \checkmark \quad \text{د}$$

$$y = \sqrt{\frac{3x+1}{2-x}} \rightarrow \frac{3x+1}{-x+2} \rightarrow R_1 = \{-2\} \xrightarrow{\text{رابطه}} [0, +\infty) - \{\sqrt{-2}\} \rightarrow \infty \quad (2)$$

$$\Rightarrow Rf = [0, +\infty) \checkmark$$

$$\frac{2x+1}{x+1} \rightarrow \begin{matrix} \text{مقام} \rightarrow -1 \\ \text{مخرج} \rightarrow 2 \end{matrix} \quad (1, 5) \quad \text{ح}$$



محل برعکس مختلار
با محورهای x و y
خطی را به خصوصاً تو
امکان نیایی

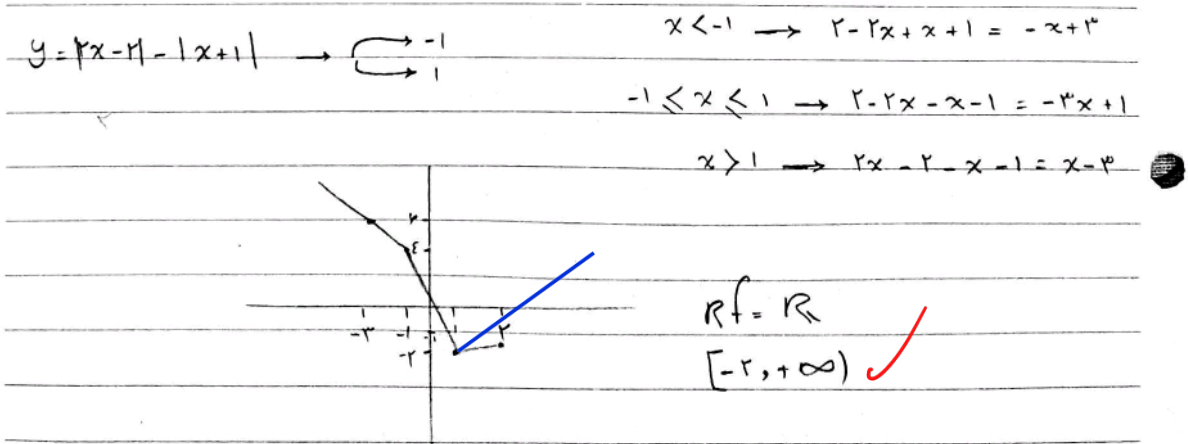
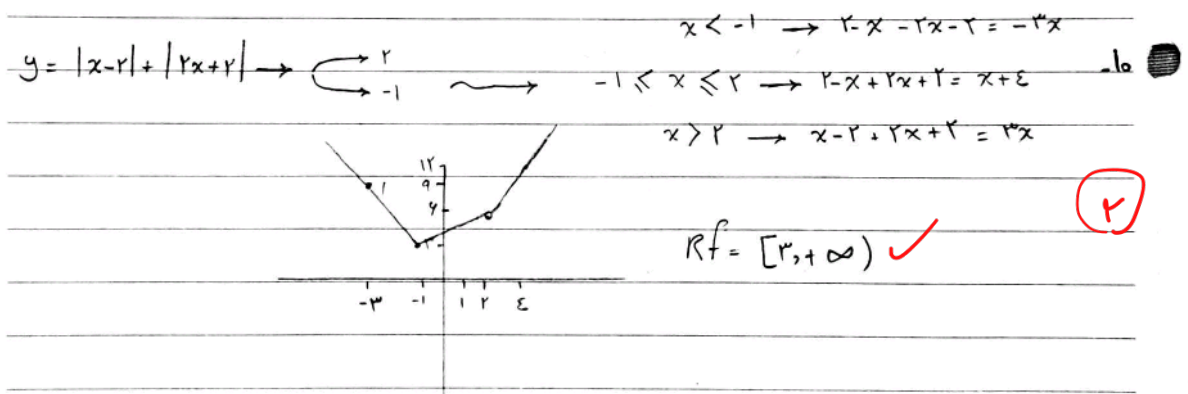
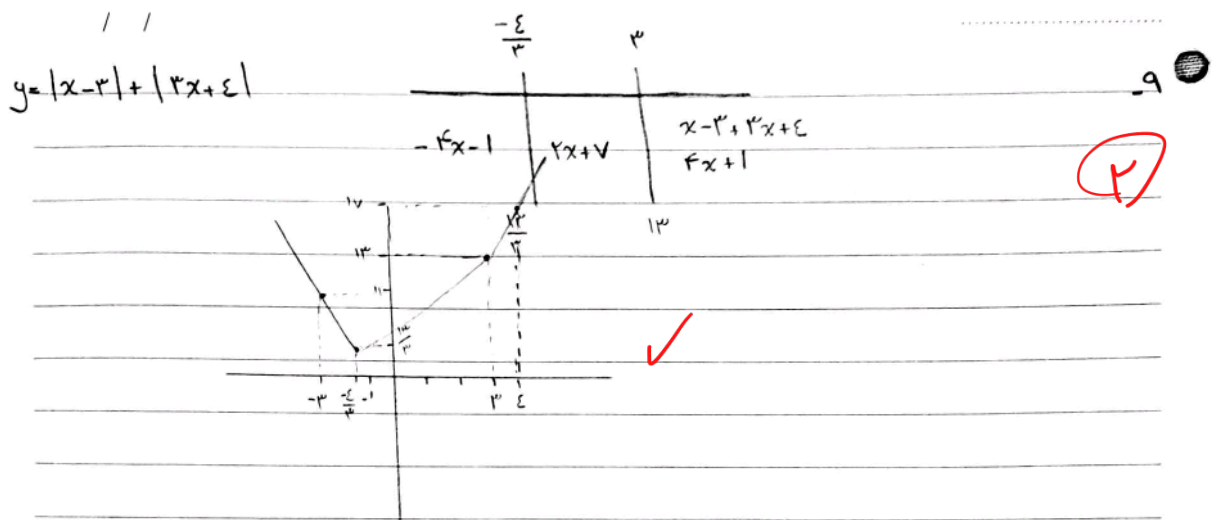
$$\frac{2x-1}{x+2} \rightarrow \begin{matrix} \text{مقام} \rightarrow -2 \\ \text{مخرج} \rightarrow 2 \end{matrix}$$

$$\sin x + \frac{1}{\sin x} \rightarrow 1 \leq \sin x \leq 1 \rightarrow Rf = (-\infty, x] \cup [x, +\infty) \checkmark \quad (2) \quad \text{ح}$$

$$\frac{x^4+1}{x^4} \rightarrow x^4 + \frac{1}{x^4} \rightarrow Rf = (-\infty, -2] \cup [2, +\infty) \checkmark$$

$$\frac{\sqrt{x^2+1}}{\sqrt{x}} \rightarrow \sqrt{x} + \frac{1}{\sqrt{x}} \rightarrow Rf = (-\infty, -2] \cup [2, +\infty) \checkmark$$

$$\sqrt{x} + \frac{1}{\sqrt{x}} \rightarrow \sqrt{x} \geq 0 \rightarrow Rf = [2, +\infty) \checkmark$$



سوال ۱ را جا انداختی