

نام و نام خانوادگی: کلاس: یاد دهنده

تعلیم دوره ۴

۱۸,۷۵

$$x^2 - 2xy = 1 \rightarrow x = \frac{y + \sqrt{y^2 + 4}}{2} \Rightarrow y^2 + 4 \geq 0, y \neq -2$$

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

۱) الف) $y \leq x^2 - 2x + 1 - 1 \rightarrow y \leq (x-1)^2 + 1$

✓ $y-1 \leq (x-1)^2 \rightarrow \sqrt{y-1} + 1 \leq x \Rightarrow R_f \subset \mathbb{R}$

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ب) $yx^2 - 2xy - 1 \leq 0 \xrightarrow{\Delta} b^2 - 4ac \leq 4y^2 + 4y \geq 0$

عبارت همیشه و همیشه می باشد

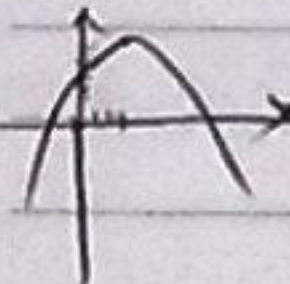
$$\Rightarrow R_f \subset \mathbb{R}$$

۲) Min $\left| \begin{array}{l} -\frac{b}{2a} \leq 2 \\ \Sigma = -1 + 1 \leq 4 \end{array} \right|$



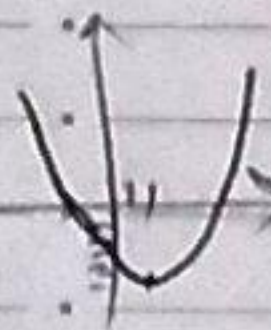
الف) $R_f \subset [4, +\infty)$

Max $\left| \begin{array}{l} -\frac{b}{2a} \leq 2 \\ -9 + 18 + 9 \leq 12 \end{array} \right|$



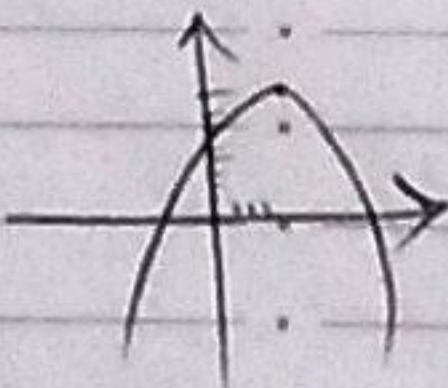
ب) $R_f \subset (-\infty, 12]$

Min $\left| \begin{array}{l} -\frac{b}{2a} \leq 2 \\ \Sigma = -1 - 9 \leq -7 \end{array} \right|$



ج) $\sqrt{[-7, +\infty)} \rightarrow R_f \subset [0, +\infty)$

Max $\left| \begin{array}{l} \frac{b}{2a} \leq 9 \\ 18 - 9 \leq 9 \end{array} \right|$



د) $\sqrt{[9, +\infty)} \rightarrow [0, 3] \subset R_f$

د) $(-\infty, 0] \cup \{2\}$ ب) $(-\infty, 0] \cup \{2\}$ $\downarrow$

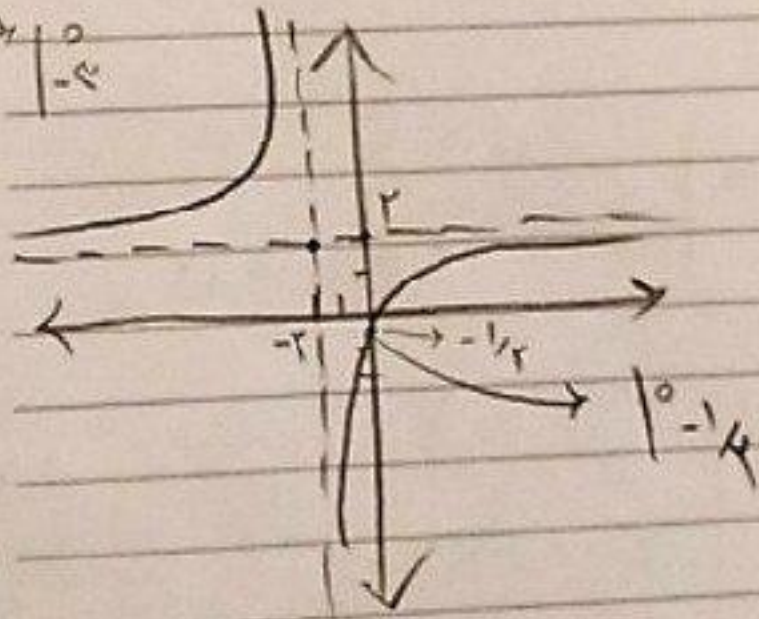
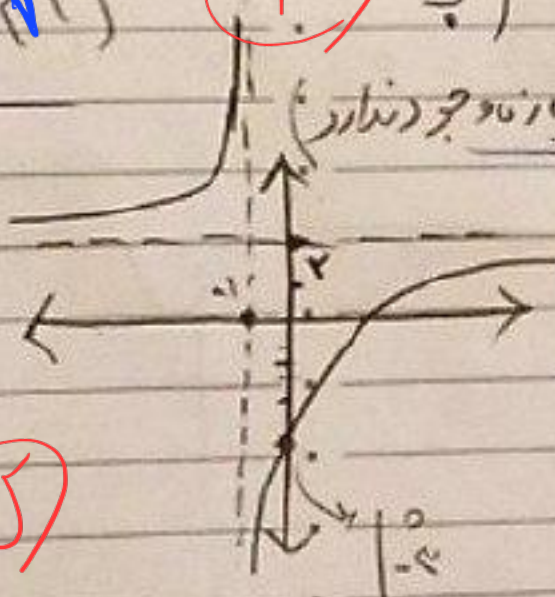
$\frac{a}{c}$ برابر -2 است نه در این بازه وجود ندارد

۴) $x = -1$
 $y = 2$

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ب) $x = -2$
 $y = 2$

$x \rightarrow y = -\frac{1}{4}$



v) ١) $\sin x + \frac{1}{\sin x} \rightarrow (-\infty, -1] \cup [1, +\infty) \subset \mathbb{R}_f$

٢) $x^2 + \frac{1}{x^2} \rightarrow (-\infty, -1] \cup [1, +\infty) \subset \mathbb{R}_f$

ج) $\sqrt{x} + \frac{1}{\sqrt{x}} \rightarrow (-\infty, -1] \cup [1, +\infty) \subset \mathbb{R}_f$

د) $\sqrt{x} + \frac{1}{\sqrt{x}} \rightarrow [1, +\infty)$

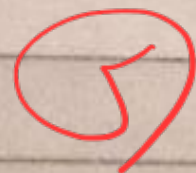
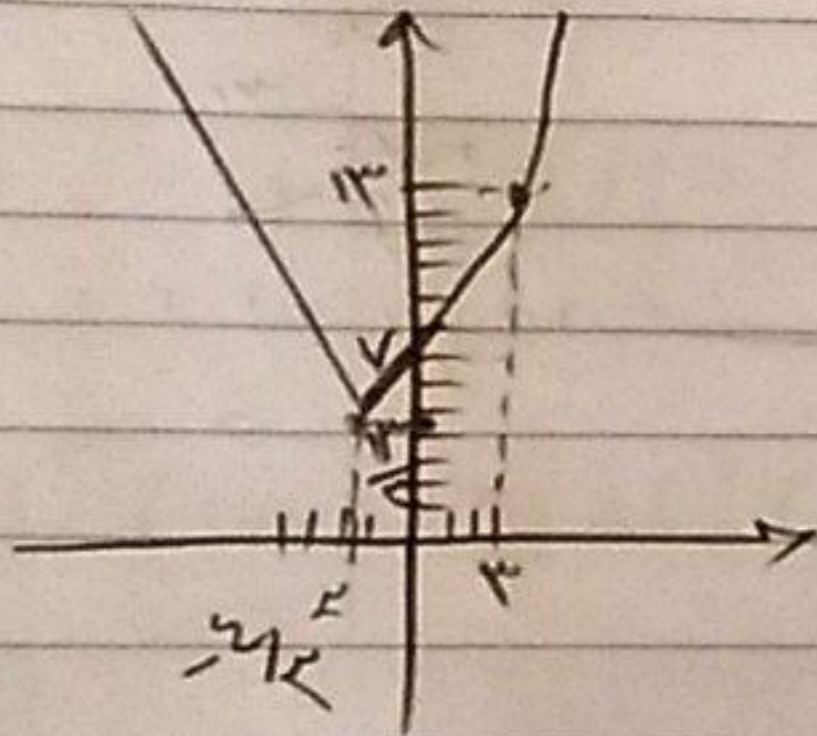
$$1) \quad x^2 + \frac{1}{x^2+2} \rightarrow x^2 \geq 0 \quad \& \quad \text{Min} = 1/3 \Rightarrow \text{Rfs} [1/3, +\infty)$$

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$$2) \quad \sqrt{x^2+2} + \frac{1}{\sqrt{x^2+2}} \rightarrow [2, +\infty)$$

9)

$$y = |x - 2| + |2x + 2|$$

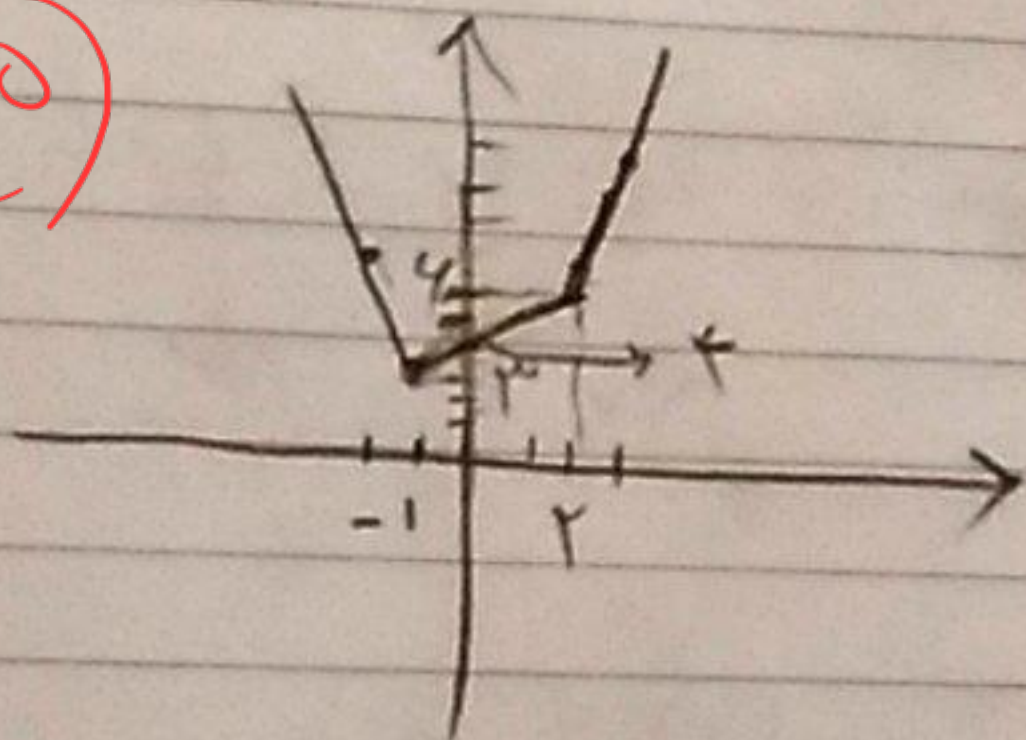


$-x + 2 - 2x - 2$	$-x + 2 + 2x + 2$	$x - 2 + 2x + 2$
$-3x - 1$	$x + 4$	$3x + 1$

$$\frac{-2x^2}{x^2} \mid x^3$$

الف) $|x-2| + |2x+2| \leq y$

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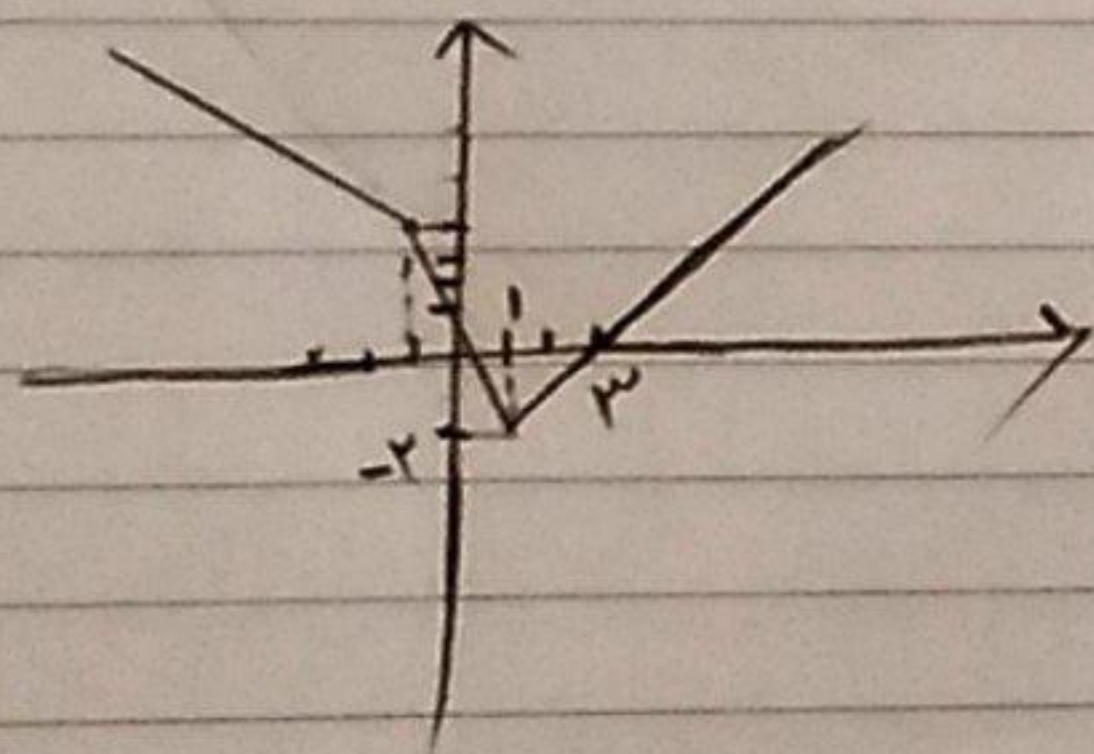


$$R = [2, +\infty)$$

-1	2
$2-x-2-2x$ $= -2x$	$2-x+2x+2$ $= x+4$
(3)	(4) $= 2x$

نوشتن برد

ب) $|2x-2| - |x+1| \leq y$



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

-1	2
$2-2x+x+1$ $= -x+3$	$2x+2-x-1$ $= -x+1$
(3)	(-2) $= x-2$