Year: یازدهم Month: تکلیف Dey : ۲ ( ) Subject: آرادبنی نژاد

۱۹

الف) $(x-1)^3+1 \rightarrow y-1=(x-1)^3 \rightarrow x-1=\sqrt[3]{y-1}$

$\rightarrow x=\sqrt[3]{y-1}+1 \rightarrow R_f=\mathbb{R}$

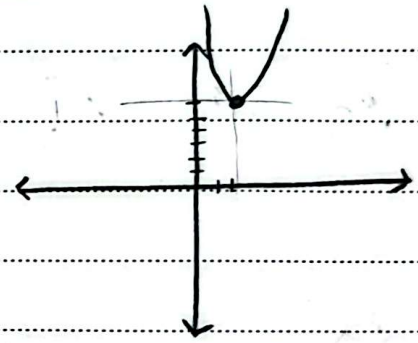
ب) $\frac{1}{x^2-2x}$ $yx^2-2xy=1 \rightarrow yx^2-2xy-1=0$

$x=\frac{+2y \pm \sqrt{4y^2+4y}}{-2y} \rightarrow 4y(y+1)\geq 0$ $\xrightarrow{y=0,-1}$ $\begin{array}{ccccc} & -1 & & 0 & \\ + & \emptyset & - & \emptyset & + \end{array}$

$D_f=(-\infty,-1]\cup[0,+\infty)$

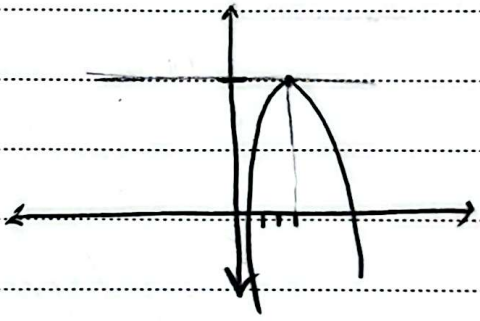
الف) $y=x^2-4x+10$ $\min \left| \begin{array}{l} 2 \\ 6 \end{array} \right.$

$R_f=[6,+\infty)$



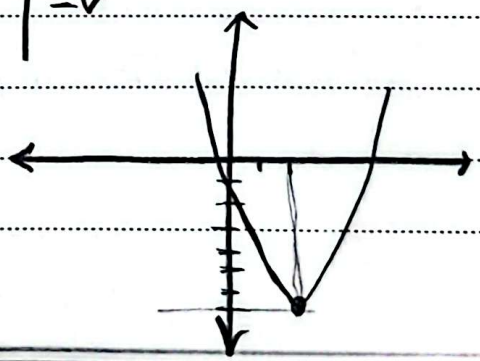
ب) $y=-x^2+4x+2$ $\max \left| \begin{array}{l} 2 \\ 12 \end{array} \right.$

$R_f=(-\infty,12]$



ج) $y=\sqrt{x^2-4x-2}$ $\min \left| \begin{array}{l} 2 \\ -2 \end{array} \right.$

$R_f=\sqrt{[-2,+\infty)}=[0,+\infty)$



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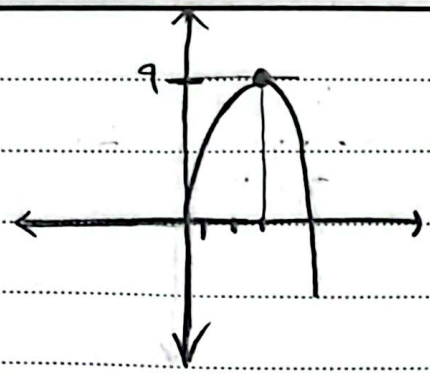
Year: ____ Month: ____ Dey : ____ ( ) Subject: آمادگی نمرات

۱) $y = \sqrt{-x^2+4x}$ $\max \begin{vmatrix} x \\ y \end{vmatrix} \begin{matrix} ۲ \\ ۹ \end{matrix}$

$R_f = \sqrt{(-\infty, 9]} = [0, ۳]$



۲) الف) $R_f = \mathbb{R}$ ب) $R_f = \mathbb{R}$ ج) $R_f = \sqrt{\mathbb{R}} = [0, +\infty)$

۳) الف) $R_f = [0, +\infty)$ ب) $R_f = [0, +\infty)$

۴) الف) $R_f = \mathbb{R} - \{۳\}$ ب) $R_f = \mathbb{R} - \{۲\}$

۵) الف) $\sqrt{\mathbb{R} - \{۲\}} = [0, +\infty) - \{\sqrt{۲}\}$

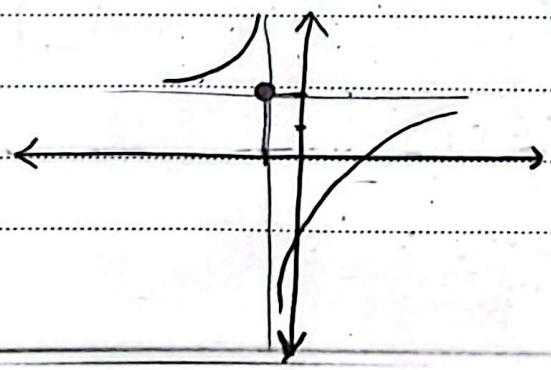
ب) $\sqrt{\mathbb{R} - \{-۳\}} = [0, +\infty)$

۶) الف) $y = \frac{۲x-۳}{x+۱}$

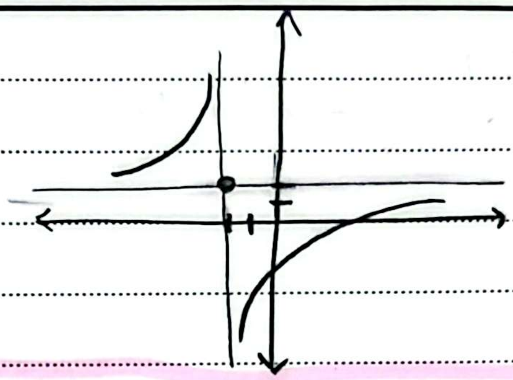
$x = -۱$ ← خط مجانب قائم

$y = \frac{a}{c} = ۲$ ← خط مجانب افقی

$-۱ < x$ ← دامنه



ب) $y = \frac{2x-1}{x+2}$ ۲ مجانب افقی ، ۲- مجانب قائم



الف) $\sin x + \frac{1}{\sin x}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

($\sin x$: بین ۱- و ۱)

ب) $\frac{x^6+1}{x^3+1}$ $x^3 + \frac{1}{x^3}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

ج) $\sqrt[3]{x^2} + \frac{1}{\sqrt[3]{x}}$ $R_f = (-\infty, -2] \cup [2, +\infty)$

د) $\sqrt{x} + \frac{1}{\sqrt{x}}$ $R_f = [2, +\infty)$

$y = x^2 + \frac{1}{x^2+3}$ $-3+3 \longrightarrow$ $\underline{x^2+3+\frac{1}{x^2+3}}-3$

$R_f = [\frac{1}{3}, +\infty)$ $min = \frac{10}{3}$ $\frac{10}{3} - \frac{9}{3} = \frac{1}{3}$

$y = \sqrt{x^2+4} + \frac{1}{\sqrt{x^2+4}} \longrightarrow R_f = [\frac{5}{2}, +\infty)$

if $x^2 = 0 \rightarrow$ $min = 2$

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$\frac{16}{3} - \frac{3}{3} = \frac{13}{3}$

$-4\left(\frac{-4}{3}\right) - \frac{3}{3}$

(9)

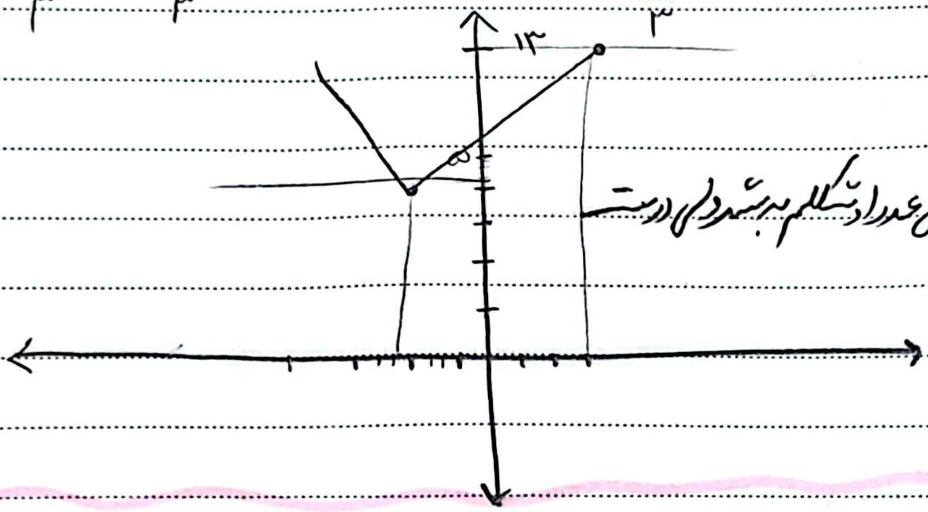
$y = |x-3| + |3x+4|$

$3 \qquad -\frac{4}{3} \qquad -1.33 = \frac{-4}{3}$

$-\frac{4}{3}$		3
$-x+3-3x-4$	$-x+3+3x+4$	$x-3+3x+4$
$-4x-1$	$2x+7$	$4x+1$
	$\frac{13}{3}$	13

$\frac{-4}{3} \times 2 = \frac{-8}{3} + \frac{21}{3}$

$\frac{13}{3} = 4\frac{1}{3}$



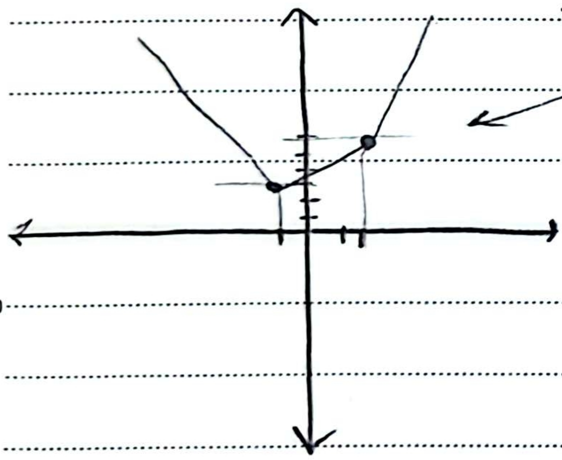
(6)

۱۱ یکی عدد اشکالم بد شد ولی درست

(10)

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

-1		2
$-x+2-2x-2$	$-x+2+2x+2$	$x-2+2x+2$
$-3x$	$x+4$	$3x$
	3	6

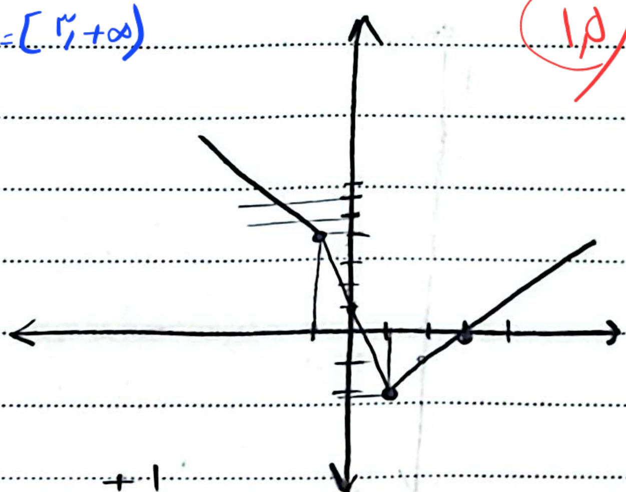


$R = [3, +\infty)$

(1.5)

$y = |2x-2| - |x+1|$

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



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

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