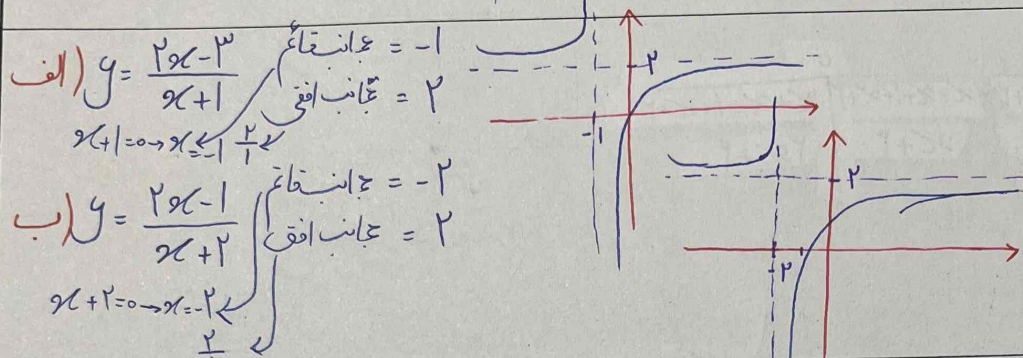


الف) $y = \sqrt{\frac{2x+4}{x+1}}$ → مجموعه گزینش $= \mathbb{R} - \frac{0}{c} \rightarrow$ مجموعه عبارت $= \mathbb{R} - \{2\} \rightarrow$ حیف $[0, \sqrt{2}) \cup (\sqrt{2}, +\infty)$

ب) $y = \sqrt{\frac{2x+1}{2-x}}$ → مجموعه عبارت $= \mathbb{R} - \{-\frac{3}{1}\} \rightarrow \mathbb{R} = [0, +\infty)$
 رادیکال
 لایحه حیف بلایع در اعداد منفی است و حیف می شود



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

ب) $y = \frac{x^4+1}{x^3} = x + \frac{1}{x^3} \rightarrow \mathbb{R}_f = (-\infty, -2] \cup [2, +\infty)$

ج) $y = \frac{\sqrt[3]{x^2+1}}{\sqrt[3]{x}} = \sqrt[3]{x} + \frac{1}{\sqrt[3]{x}} \rightarrow \mathbb{R}_f = (-\infty, -2] \cup [2, +\infty)$

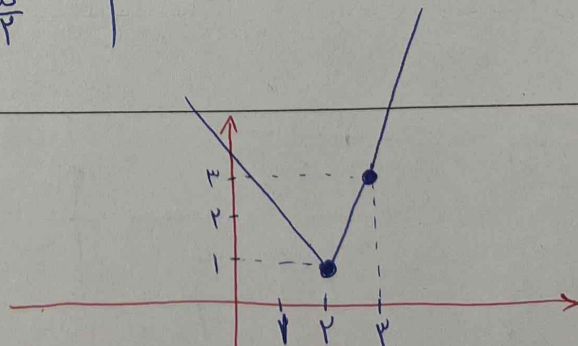
د) $y = \sqrt{x} + \frac{1}{\sqrt{x}} \rightarrow \sqrt{x} \geq 0 \Rightarrow \mathbb{R} = [2, +\infty)$

الف) $y = x^2 + \frac{1}{x^2+4} \rightarrow \frac{1}{(t+4)^2} < 1 \rightarrow y_{\min} = 0 + \frac{1}{4} = \frac{1}{4} \Rightarrow \mathbb{R} = [\frac{1}{4}, +\infty)$

ب) $y = \frac{x^2+5}{\sqrt{x^2+4}} = \frac{x^2+4+1}{\sqrt{x^2+4}} = \sqrt{x^2+4} + \frac{1}{\sqrt{x^2+4}} \rightarrow \mathbb{R} = [\frac{5}{2}, +\infty)$
 $x^2+4 \geq 4 \rightarrow \sqrt{x^2+4} \geq 2 \rightarrow y_{\min} = 2 + \frac{1}{2} = \frac{5}{2}$
 $x^2 \geq 0$

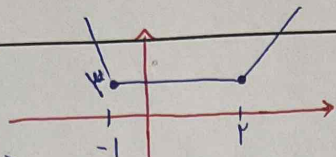
$y = |x-3| + |3x-6|$

	2	3
$3-x-3x+6$	$-x+3+3x-6$	$x-3+3x-6$
$-4x+9$	$2x-3$	$4x-9$



الف) $y = |x-2| + |2x+2|$

$2-2x-2x-2$	$2-2x+2x+2$	$2x-2+2x+2$
$-4x$	4	$4x$
$-2x$	$2x+4$	$2x$

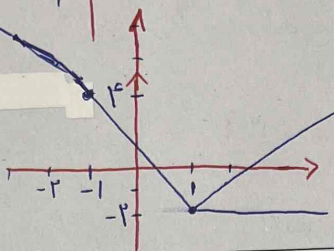


$\rightarrow R = [3, +\infty)$

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ب) $y = |2x-2| - |x+1|$

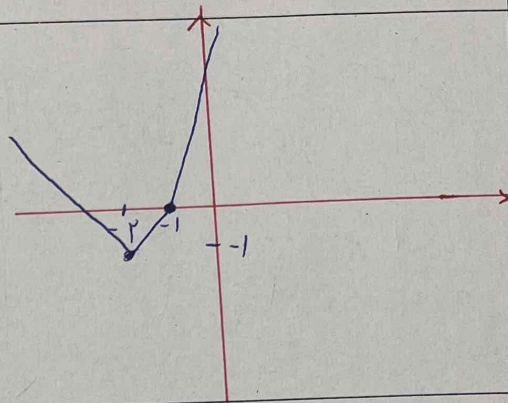
$2-2x+x+1$	$-2x+x-1$	$2x-2-x-1$
$3-x$	$-x-1$	$x-3$
$3-2x$	$-2x-1$	$x-3$



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

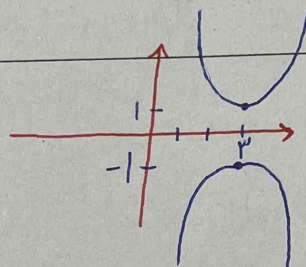
$y = x + |x+2| + |x+2|$

$x-2x-2$	$x-2x-2$	$x-2x-2$
$-x-2$	$-x-2$	$-x-2$
$-x-2$	$-x-2$	$-x-2$

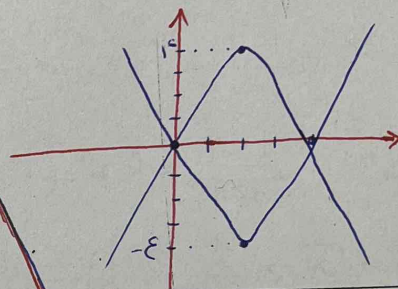


7

الف) $|y| = \frac{x^2 - 9x + 10}{(x-3)^2 + 1}$



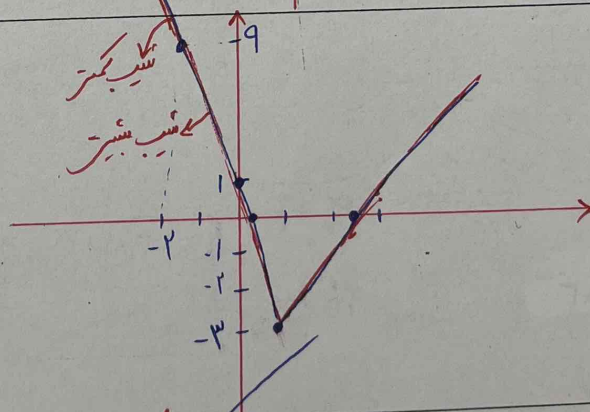
ب) $|y| = \frac{x^2 - 4x}{x(x-4)}$



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

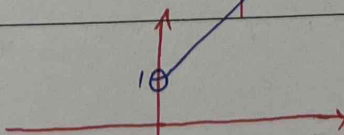
$3-3x+x+2$	$3-3x-x-2$	$3x-3-x+2$
$5-2x$	$1-4x$	$2x-1$



9

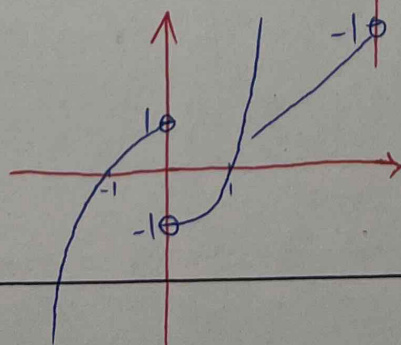
الف) $y = x + \frac{x}{|x|}$

$x-1$	$x+1$
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ب) $y = x|x| - \frac{x}{|x|}$

$-x^2+1$	x^2-1
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