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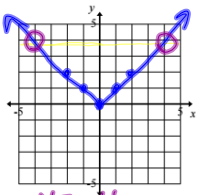
1) Solve the absolute value equation $|x| = 4$. Think: What will make this equation true? _____.

Thinking about this equation graphically, graph the equation $y = |x|$ and on the same axis, graph $y = 4$. Notice, these are the expressions from the two sides of the equation.



a) Upon graphing these two equations, what do you notice about the graph?

b) Solution(s) identified by the graph: $x = -4, x = 4$

x	y
-2	2
-1	1
0	0
1	1
2	2

vertex

$|-4| = 4$ ✓

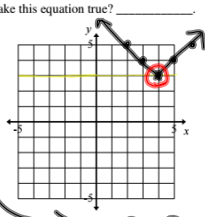
$|4| = -4$ ✓

$x = -4$

$x = 4$

2) Solve the absolute value equation $|x-4| + 3 = 3$. Think: What will make this equation true? _____.

Thinking about this equation graphically, isolate the absolute value, then graph the equation $y = |x-4|$ and on the same axis, graph $y = 0$. Notice, these are the expressions from the two sides of the equation.



a) Upon graphing these two equations, what do you notice about the graph?

b) Solution(s) identified by the graph: $x = 4$

x	y
2	5
3	4
4	3
5	4
6	5

vertex

$|4-4| + 3$

$|0| + 3$

$0 + 3 = 3$ ✓

$x + 3 = 3$

$-3 \quad -3$

$x = 0$

$|x-4| = 0$

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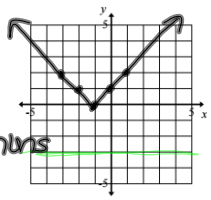
3) Solve the absolute value equation $|x+1| = -3$. Think: What will make this equation true? _____.

Thinking about this equation graphically, graph the equation $y = |x+1|$ and on the same axis, graph $y = -3$. Notice, these are the expressions from the two sides of the equation.



a) Upon graphing these two equations, what do you notice about the graph?

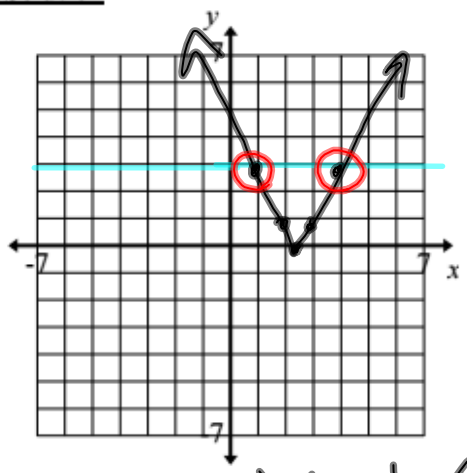
b) Solution(s) identified by the graph: no solutions

x	y
-3	2
-2	1
-1	0
0	1
1	2

vertex

5) Solve both *graphically* and *algebraically* $|2x-5|=3$ y_1 y_2 Page 219

Graphical Solution



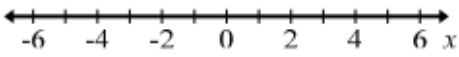
x	y
1	3
2	1
2.5	0
3	1
4	3

Vertex

$x=1$ ✓

$x=4$

Algebraic Solution



$|2x-5|=3$

$2x-5=3$ $+5\ +5$

$2x=8$

$\frac{2x}{2}=\frac{8}{2}$

$x=4$

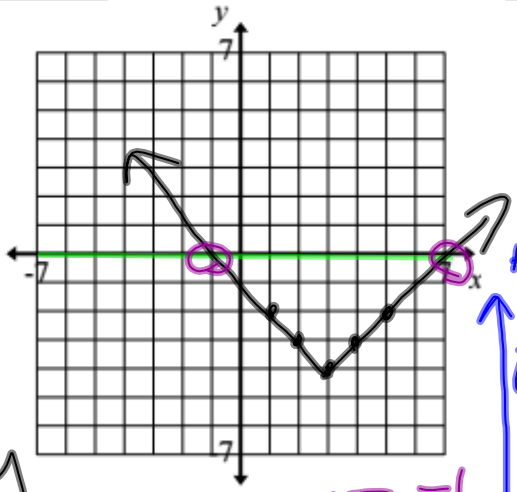
$2x-5=-3$ $+5\ +5$

$\frac{2x}{2}=\frac{2}{2}$

$x=1$ ✓

8) Solve both *graphically* and *algebraically* $|x-3|-4 \neq 0$ Page 220

Graphical Solution



x	y
1	-2
2	-3
3	-4
4	-3
5	-2

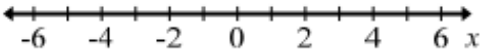
Vertex

$x=-1$

$x=7$

ABS BEHIND AS

Algebraic Solution



$|x-3|-4=0$

$+4\ +4$

$|x-3|=4$

$x-3=4$ $+3\ +3$

$x=7$

$x-3=-4$ $+3\ +3$

$x=-1$

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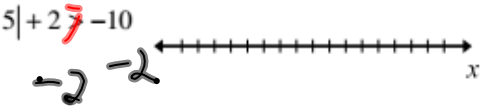
9) Solve algebraically

$-3|x-5|+2 \geq -10$



abs. PEMDAS

$-2 \quad -2$

$\frac{-3|x-5|}{-3} \leq \frac{-12}{-3}$

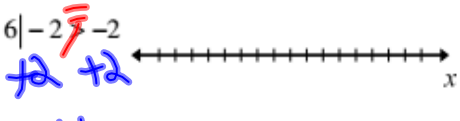
$x-5 \geq 4 \qquad x-5 \leq -4$

$+5 \quad +5 \qquad +5 \quad +5$

$x \geq 9 \qquad x \leq 1$

10) Solve algebraically

$4|x-6|-2 \geq -2$



$+2 \quad +2$

$\frac{4|x-6|}{4} \geq \frac{0}{4}$

$|x-6| \geq 0$

$x-6 \geq 0$

$+6 \quad +6$

$x \geq 6$

UNIT 5 Part 3: Intermediate Algebra B Name: _____ Period: _____

http://anokahennepin.schoolwires.net/Page/30418

Use this guide to help you evaluate where you are at in this chapter, and identify areas that you need extra help in.

☺=Proficient (you are awesome at this) 😐=Middle (you need some improvement) ☹=Not Proficient (HELP!)

Intermediate Algebra Unit 5 : Solving Quadratic Equations					
Date Covered	**LT Letter**	**Learning Target (LT)** (What you should know)	**Practice Problems**	**Homework Score**	**Self-Evaluation** (Do you know it?)
4/17	8.1A	I can graph absolute value equatoins and demonstrate understanding of the features of its graph.	8.1A #1-12 (P-173)		☹ 😐 ☺
4/20	8.2 A	I can solve absolute value equations.	8.2A #1-9 (P-183)		☹ 😐 ☺
	5.2 E	I can solve quadratic equations by square roots to get real or complex solutions.	5.2 E #1-8 (P-19)		☹ 😐 ☺
	5.2 F		5.2 F #2-5, 7-15 (P-15)		☹ 😐 ☺
	5.2 H		5.2 H #1-6, 14-19 (P-29)		☹ 😐 ☺
	5.2 N	I can choose the best method to solve for quadratic equations.	5.2 N #1-3, 5-7, 12-17 (P-41)		☹ 😐 ☺
	5.2 O		5.2 O #1-8 (P-51)		☹ 😐 ☺
4/28	NO CLASS. ACT TESTING!				
4/29	Unit 5 Part 3 Review		Review Packet		☹ 😐 ☺
Test Date: 4/30	Test Reminders:			**TEST TOTAL: # of Questions = Points =**	*Review Done?* **Y/N** *Review Checked with answer key?* **Y/N** *Did you ask about the*

Updated 4/17/2015