

Name : _____

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Class Number: _____

Math 105 SAMPLE Skill Quiz 3
Lessons 4, 5, 6, 7, and 8

Free Response: Solve each of the following problems. Show your work and box your final answer.

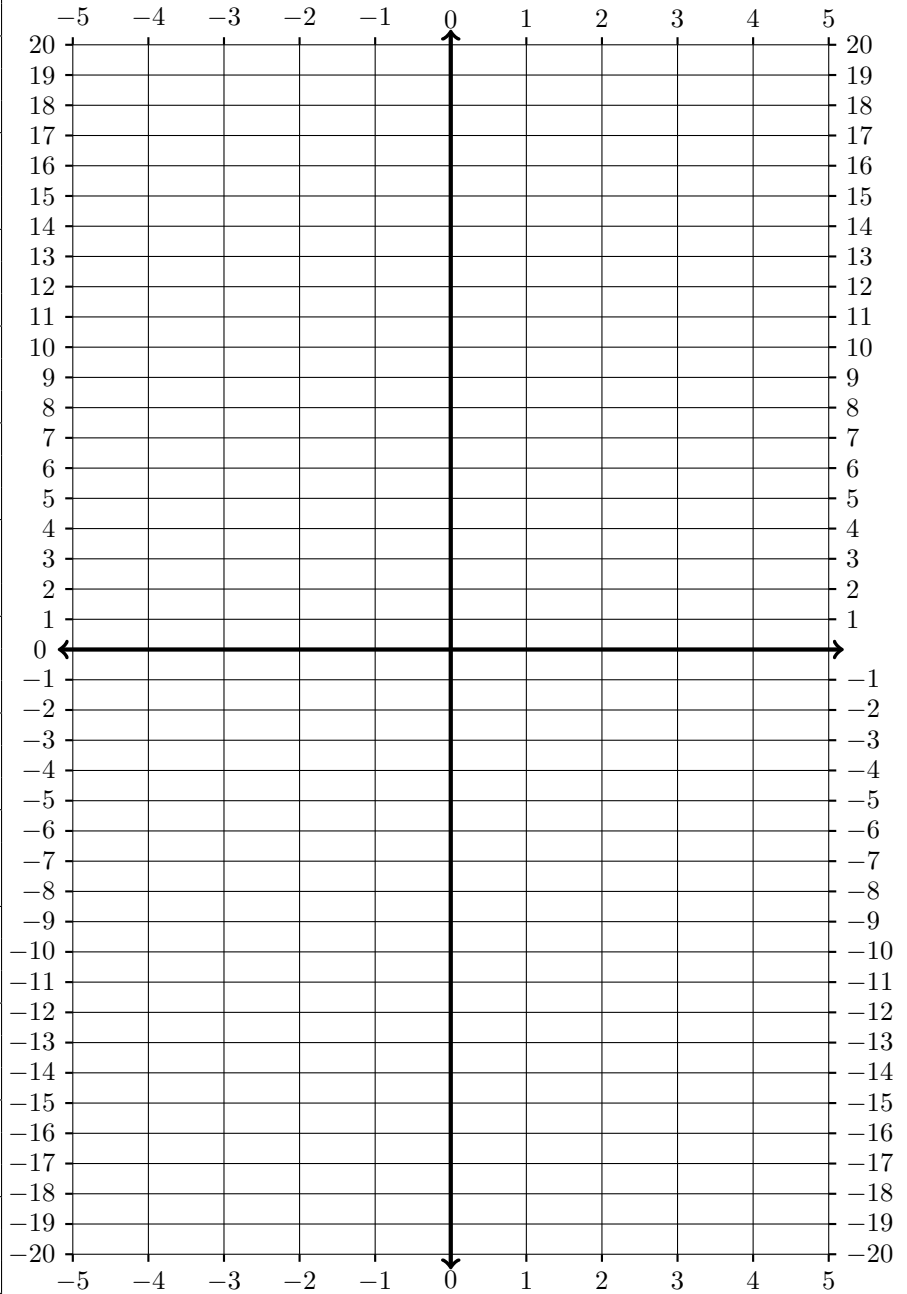
- 3 1. Solve the quadratic equation below using an algebraic technique: $2x^2 + 2x - 10 = 11 - x^2$

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- 3 2. In your own words, explain the zero product property. Then, explain how to use the zero product property as an inverse operation to solve quadratic equations.

- 5 3. Using a calculator, solve the quadratic equation below using a graphical technique. Make sure to demonstrate all five steps of this process. Please specifically identify each point of intersection on your graph and write each of these points as an ordered pair. Make sure to finish step 5 and use this information to explicitly state the solution(s) to this algebraic equation:

$$2x^2 + 2x - 10 = 11 - x^2$$

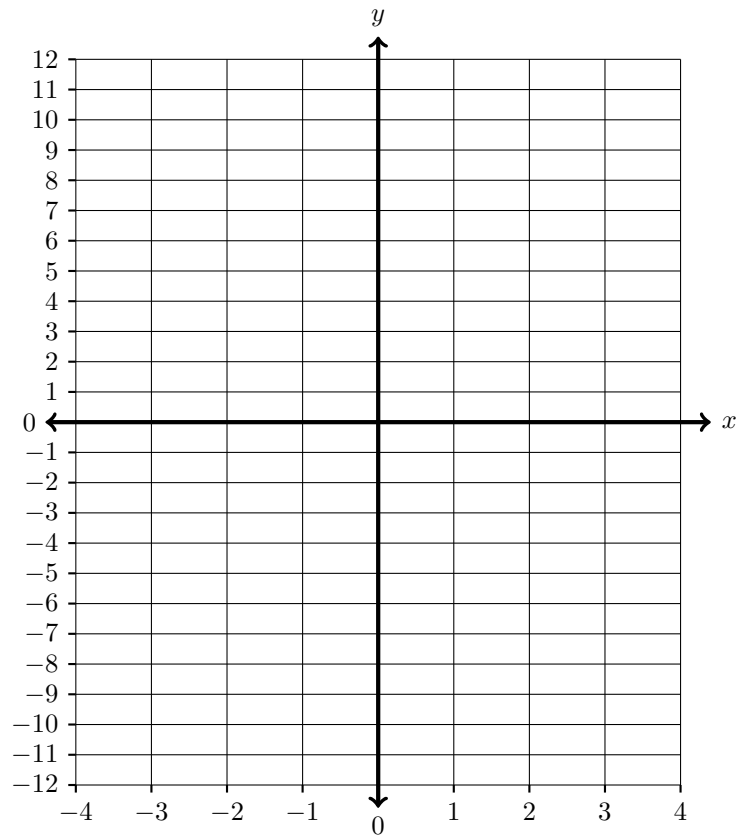
	LHS	RHS
x		
-5		
-4		
-3		
$-\frac{7}{3}$		
-2		
-1.5		
-1		
0		
1		
2		
$\frac{7}{3}$		
3		
4		
5		



- 5 4. Using a calculator, solve the absolute value equation below using a graphical technique. Make sure to demonstrate all five steps of this process. Please specifically identify each point of intersection on your graph and write each of these points as an ordered pair. Make sure to finish step 5 and use this information to explicitly state the solution(s) to this algebraic equation:

$$4|x + 1| - 6 = 6$$

	LHS of Equation	RHS of Equation
x		
-4		
-3		
-2		
-1.5		
-1		
0		
1		
1.5		
2		
3		
4		



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- 2 5. Solve the absolute value equation below using an algebraic technique:

$$4|x + 1| - 6 = 6$$

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- 2 6. In your own words, explain the inverse operation for absolute value equations. Then, explain how to use this inverse to solve absolute values equations.