Unit 0 Back to Basics Review **Name:** _____

Homework: Always Sometimes Never Activity Day **Date:** _____ **Hour:** _____

1) For each of the following statements, indicate whether it is 'Always true', 'Never true', or 'Sometimes true'. Circle the correct answer. If you choose 'Sometimes true' give an example of when it is true and a counterexample to show when it is not true.

$x + 2 = 3$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$x - 12 = x + 30$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$2(x + 6) = 2x + 12$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$3(x - 2) = 3x - 2$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$\frac{7}{8}x = \frac{1}{2}x + \frac{3}{8}x$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$6(x - 5) = 2(4x - 15)$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		
$\frac{x+29}{3} = x + 7$	Always True	Sometimes True	Never True
	Example: _____		
	Counterexample: _____		

2) Write down an example (that has NOT been used) of an equation that has:

a) One solution _____

b) An infinite number of solutions _____

c) No solution _____

3) Which of the equations in question 2 are also identities?

_____

_____

4) In your own words, explain what is meant by an identity.

_____

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