Name _____ Date _____

Solving Equations and Inequalities with One Variable: Solving Equations – Part 1
Independent Practice

1. Complete the following table with the properties used to solve $4(x + 3) = 20$.

Statements	Proof
$4(x + 3) = 20$	*Given*
$4x + 12 = 20$	
$4x = 8$	
$x = 2$	

2. Complete the following table with the mathematical statements that correspond to the proofs used to solve $\frac{4(x-3)}{3} = 20$.

Statements	Proof
$\frac{4(x-3)}{3} = 20$	*Given*
	Multiplication Property of Equality
	Multiplication Property of Equality
	Addition Property of Equality

3. Consider the equations $5x + 10 = 30$ and $5(x + 10) = 30$.

   Do they have the same solution? Why or why not?

4. Consider the equations $3x + 2 = 14$ and $2 + 3x = 14$.

   Do they have the same solution? Why or why not?

5. Consider the equations $7x - 4 = 31$ and $7x - 4 + 4 = 31 + 4$.

   Part A: *Will the two equations have the same solution?*

   Part B: *Find the solution to each equation.*

6. Consider the equation $3(x + 2) = 36$

   Solve the equation using properties of equality to justify your answer.

7. Consider the equation $\frac{x}{3} + 7 = 13$.

   Part A: *Write an equivalent equation using a property of equality.*

   Part B: *Solve the original equation and the new equation you wrote in Part A to verify they have the same solution.*