

Algebra I
4.5 Practice
Algebraic Properties

NAME: _____
DATE: _____ HOUR: _____

Match the properties and transformations below to justify each step.

1.	$5(2x - 4) = -2(-3x + 4)$	Given Problem
2.	$10x - 20 = -2(-3x + 4)$	1 → 2
3.	$10x - 20 = 6x - 8$	2 → 3
4.	$10x - 20 - 6x = 6x - 8 - 6x$	3 → 4
5.	$4x - 20 = -8$	4 → 5
6.	$4x - 20 + 20 = -8 + 20$	5 → 6
7.	$4x = 12$	6 → 7
8.	$\frac{4x}{4} = \frac{12}{4}$	7 → 8
9.	$x = 3$	8 → 9

Combine Like Terms	Combine Like Terms
Distributive Property of Multiplication Over Subtraction	Distributive Property of Multiplication Over Addition
Simplify Fractions	Divide each side by 4
Add 20 to both sides	Subtract 6x from both sides

1.	$4x + 2 = -10$	Given Problem
2.	$4x + 2 - 2 = -10 - 2$	$1 \rightarrow 2$
3.	$4x = -12$	$2 \rightarrow 3$
4.	$\frac{4x}{4} = \frac{-12}{4}$	$3 \rightarrow 4$
5.	$x = -3$	$4 \rightarrow 5$

Combine Like Terms	Subtract 2 from both sides
Simplify Fractions	Divide each side by 4

1.	$3x - 5 = 10$	Given Problem
2.	$3x - 5 + 5 = 10 + 5$	$1 \rightarrow 2$
3.	$3x = 15$	$2 \rightarrow 3$
4.	$\frac{3x}{3} = \frac{15}{3}$	$3 \rightarrow 4$
5.	$x = 5$	$4 \rightarrow 5$

Combine Like Terms	Add 5 to both sides
Simplify Fractions	Divide each side by 3