

# Unit 2, Lesson 2 Notes: Solving Equations with Variables on Both Sides

Name \_\_\_\_\_ Block \_\_\_\_\_ Date \_\_\_\_\_

Essential Question:

Example $2(3x - 1) = 5(2x + 3) - 1$	Steps
	Simplify both sides by combining like terms
	Get variables on one side of the = sign and constants on the other side of the = sign
	Solve for the variable
	Check by plugging your answer back into the original equation

**\*\*NOTE:** You may get “No Solution” or “Infinitely Many Solutions” as your final answer!

Example of a “No Solution” problem	Example of “Infinitely Many Solutions”
Final answer looks like this:	Final answer looks like this:

Let's try these together:

1)  $4 - (2c - 6) = -4(c + 1) + 2c$

2)  $\frac{5}{2}b - 2 = b - \frac{1}{2}$

Fractions:

Practice: Solve each equation.

Unit 2, Lesson 2 Notes: Solving Equations with Variables on Both Sides

1)  $11x + 7 = 10x - 8$

2)  $\frac{x}{3} + 5 = 2x$

3)  $5(3x - 2) = 3(5x - 1)$

4)  $\frac{1}{5}(y - 1) = 6 - 2(4 - y)$

5)  $\frac{m}{2} + \frac{8}{5} = 4 - \frac{3}{10}m$

6)  $1 - 8x = 8 - 7x$

Find the perimeter of the square: (Hint: set sides equal to each other!)

1)



$5x - 8$

$3x$

2)



$10x$

$6x + 8$

3)



$7x - 15$

$2x$

**Saving and Spending:** Currently, you have \$80 and your sister has \$145. You decide to save \$6 of your allowance each week, while your sister decides to spend her whole allowance plus \$7 each week. How long will it be before you have as much money as your sister?