

# 5.3

## **SOLVING SYSTEMS OF LINEAR EQUATIONS BY ELIMINATION (WORD PROBLEMS)**

## 7-3 Solve Linear Systems by Adding & Subtracting

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Today you must arrange each equation in **STANDARD FORM ( $Ax + By = C$ )** before using addition or subtraction to solve.

### Example 1

Rewrite this one

$$y = 2x - 1$$

$$2x + y = 3$$

## Example 2

$$9x - 3y = 18$$

$$3y = -7x + 30$$

## Example 3

$$x = y + 3$$

$$2x - y = 5$$

# Lowest Common Multiple

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Find the lowest common multiple of the following:

a) 2 and 3

b) 6 and 9

c) 5 and 4

Sometimes, you'll see problems that you just can't simply multiply just one line to help you eliminate a variable. Today, you'll learn how to eliminate a variable by multiplying both equations with the help of the least common multiple.

### **Example 1**

$$4x + 3y = 12$$

$$5x + 2y = 1$$

## Example 2

$$2x + 3y = 10$$

$$3x - 4y = -2$$

### **Example 3**

$$2x - 11y = 15$$

$$5x + 3y = 7$$