

Name \_\_\_\_\_  
Mrs. Roubos

Date \_\_\_\_\_  
8R Period \_\_\_\_\_

**How Do We Solve A System Of Linear Equations Algebraically?**  
**Substitution Method**

\* The substitution method is used to eliminate one of the variables by replacement.

**Procedure:**

- 1) Make sure one variable is alone (ex  $x = \dots$ ,  $y = \dots$ ,  $a = \dots$  etc)
- 2) Substitute (replace) that variable's equivalent expression into the other equation (using parentheses) so that we have one equation with one variable.
- 3) Solve for the variable
- 4) Substitute that value back into either original equation and solve for the second variable.
- 5) Check both answers back into both equations.

Solve each system of linear equations using the substitution method and check your answer.

1)  $x = -2y$   
 $5x - 3y = 13$

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2)  $x + y = 1$   
 $x = 9 - 3y$

$$\begin{aligned} 3) \quad & y = 3x - 1 \\ & 7x + 2y = 37 \end{aligned}$$

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$$\begin{aligned} 4) \quad & 4x + 3y = 27 \\ & y = 2x - 1 \end{aligned}$$

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$$\begin{aligned} 5) \quad & x = -6y - 7 \\ & 3x + y = 13 \end{aligned}$$