

Algebra 1
4-2 LinSys: Substitution

Name _____

Date _____ **A#3**

Goal:



Warm Up: If you were asked to solve the system by graphing, explain why it might

not be the most simple option: $y = 6x + 7$
 $3x - 8y = 4$

Directions: Solve the system of linear equations by substitution.		
Linear System	Example 1 $y = 6x + 7$ $3x - 8y = 4$	Try It! $x = y + 6$ $x + y = 10$
1. Solve for a variable from one equation		
2. Substitute expression from (1) into other equation; Solve for other variable		
3. Substitute value from (2) into equation from (1); solve for second variable		
4. Solution/Check	Solution: (,)	Solution: (,)

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Example 2: Solve the system of linear equations by substitution.

$$x - 2y = -13$$

$$2x + y = -6$$

Try It! Solve the system of linear equations by substitution.

$$3x + 2y = 8$$

$$x + 4y = -4$$

Example 3: Systems with infinitely many solutions or no solution.

a. $y = 3x + 1$
 $6x - 2y = -2$

b. $5x - y = -4$
 $y = 5x - 4$

Try It! Determine the number of solutions of each system.

a. $x + y = -4$
 $y = -x + 5$

b. $y = -2x + 5$
 $2x + y = 5$

<p>Example 4: In one day the National Civil Rights Museum in Memphis, TN, admitted 321 adults and children and collected \$1590. The price of admission is \$6 for adults and \$4 for children. How many adults and how many children were admitted to the museum that day?</p>	
<p>Unit 1: What do you know?</p> <p>Equation 1:</p>	<p>Unit 2: What do you know?</p> <p>Equation 2:</p>
<p>Solve:</p>	
<p>There were ___ adult tickets and ___ children tickets sold</p>	<p>Check:</p>

<p>Try It! You are selling tickets for a high school play. Student tickets cost \$4 and general admission tickets cost \$6. You sell 525 tickets and collect \$2876. How many of each type of ticket were sold?</p>	
<p>Unit 1: What do you know?</p> <p>Equation 1:</p>	<p>Unit 2: What do you know?</p> <p>Equation 2:</p>
<p>Solve:</p>	
<p>There were ___ general tickets and ___ children tickets sold</p>	<p>Check:</p>