Review Lesson 4
Solving Systems of Equations Algebraically

NAME:

Start by navigating to the Online Lesson for instructions.

Objectives
⊘ Solve a system of equations using substitution or elimination.

Introduced in:
Algebra 1: Principles of Secondary Mathematics

Lesson 16A

🔭 Solving Systems of Equations Algebraically

▷ *Fill in the notes as you watch the video in the Online Lesson.*

- Algebraically, systems of equations can be solved using _____ or

  _____ (linear combination) or a combination of both.

- Remember to solve for _____ variables and write them as an ordered pair.

- When using _____:

  - First, _____ the variable with a number or an expression.

  - Then, _____ like terms to solve for the remaining variable.

- When using _____ (or linear combinations):

  - First, decide which _____ to eliminate from the equation.

  - Then, _____ one or both equations by the least common multiple
    and add the equations vertically.

  - Last, _____ for the remaining variable.

  - Remember, the _____ of the eliminated variable must have opposite
    values when adding them together (i.e., $5x$ and $-5x$).

Example 1

⊳ *Complete the example as you watch the video in the Online Lesson.*

Solve the system of equations using substitution.

$a = \dfrac{1}{2}b - 1$

$4a + 3b = 15$

Check

$$4\left(\dfrac{9}{10}\right) + 3\left(\dfrac{19}{5}\right) = 15$$

Example 2

⊳ *Complete the example as you watch the video in the Online Lesson.*

Solve the system using linear combinations.

$6x + 2y = 33.50$

$5x + 7y = 45.25$

✎ Practice

Solve.

1) $2x + 5y = 10$

$x = 3y + 5$

2) $x - y = 14$

$4x + 8y = 116$

3) $6x + 5y = -2$

$3x - 2y = 8$

4) $y = 2x - 2$

$3x - y = 6$

Solve.

5) $3x + 5y = 15$

$y = 3x - 6$

6) $y = \dfrac{1}{2}x + 7$

$5x + 2y = 2$

7) $x - 7y = 8$

$4x + 2y = -10$

8) $5x + 12y = 18$

$2x - 8y = 4$

To continue, return to the Online Lesson.