Solving Systems By Elimination

Solve a system of equations by "eliminating" or getting rid of one of the variables.

Steps:

1. Choose a variable to eliminate
2. Eliminate that variable by adding or subtracting one equation from the other
3. Solve the new equation
4. Substitute your answer to find the other variable

EXAMPLES

$2y + 7x = -5 \qquad 5y - 7x = 12$

See any inverses? _____ and _____

Variable to eliminate: _____

Let's line up our equations and add!

$$\begin{array}{r} 2y + 7x = -5 \\ \underline{+\ \ 5y - 7x = 12} \end{array}$$

Solve!

$y =$ _____

Substitute into either equation!

$2y + 7x = -5$

$2(\_\_\_\_) + 7x = -5$

$\_\_\_\_ + 7x = -5$

$7x =$ _____

$x =$ _____

Solution:

$4y + 3x = 15 \qquad -4y - 4x = -16$

See any inverses? _____ and _____

Variable to eliminate: _____

Let's line up our equations and add!

$$\begin{array}{r} 4y + 3x = 15 \\ \underline{+\ -4y - 4x = -16} \end{array}$$

Solve!

$x =$ _____

Substitute into either equation!

$4y + 3x = 15$

$4y + 3(\_\_\_\_) = 15$

$4y + \_\_\_\_ = 15$

$4y =$ _____

$y =$ _____

Solution: