

Name _____

Date _____

8A; Algebra 1

Period _____

How Do We Solve A System Of Linear Equations Algebraically?

Part I: Addition Method

Procedure:

1. Make sure the two equations are in proper form by making sure that all _____ are on one side of the equal sign and all _____ are on the other side.
2. Make sure to _____ the two equations appropriately. (Variable on top of corresponding variable, equal sign on top of equal sign, constant on top of constant.)
3. Determine if the system contains additive inverses. Use multipliers if needed.
4. Combine the two equations by _____, thus reducing the problem to one equation in one variable.
5. _____ for the one variable.
6. _____ the known value in any of the two original equations and solve for the second variable.
7. _____ both values in each of the original equations.

Examples: Solve the following systems of equations using the addition method. Check your answer.

1) $3x - y = 7$
 $2x + y = 8$

2) $5x - 2y = 20$
 $2x + 3y = 27$

3) $5a + b = 13$
 $4a - 3b = 18$

4) $2x + 5y = -1$
 $-3x + y = 10$

5) $3a - 7 = 7b$
 $4a = 3b + 22$

$$\begin{aligned} 6) \quad & 7x = 5 - 2y \\ & 3y = 16 - 2x \end{aligned}$$

$$\begin{aligned} 7) \quad & 5m + 3n = 14 \\ & 2m + n = 6 \end{aligned}$$

$$\begin{aligned} 8) \quad & 4x + 3y = 12 \\ & -2x + y = -16 \end{aligned}$$