**Name: Date:**

**Chapter 6 – Solving Systems by Elimination**

**Advanced Algebra**

We are going to look into the elimination method. The key step in this method is to obtain, for one of the variables, coefficients that differ only in sign so that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the equations eliminates one of the variables.

$-3x+5y=-7$ 🡪 Equation #1

 $ 3x-2y= 1 $ 🡪 Equation #2

By adding the two equations, you eliminate the variable $x$ and obtain a single equation in $y$. Then you can use that value and substitute into one of the original equations to solve for $x$.

Elimination Method

Example 1: Solve the system of linear equations using elimination.

$$3x+2y=4$$

$$5x-2y=8$$

Example #2: Solve the system of linear equations using elimination.

$$2x-3y=-7$$

$$3x +y =-5$$

Example #3: Solve the system of linear equations using elimination.

$$5x+3y=9$$

$$2x-4y=14$$

Example #4: Solve the system of linear equations using elimination.

 $ x-2y=3$

$$-2x +4y =1$$

Example #5: Solve the system of linear equations using elimination.

$$2x-y=1$$

$$4x-2y =2$$

**Practice:**

**Solve each of the following using the elimination method.**

1. ** 2. **

**3.**  **4. **