

Elimination using Multiplication

**When neither variable in the system can be eliminated using addition or subtraction
Least Common Multiples & Additive Inverses**

1. Multiply both sides of an equation by the same number in order to make additive inverses
2. Add equations together to eliminate a variable

Example 1) $2x + y = 23$
 $3x + 2y = 37$

Example 2) $4x + 3y = 8$
 $3x - 5y = -23$

Determine the Best Method

| Method | Best time to use |
|----------------------------------|------------------|
| Graphing | |
| Substitution | |
| Elimination using + | |
| Elimination using - | |
| Elimination using multiplication | |

Example - Determine the best method to solve the system. Then solve.

$$\begin{aligned}x + 5y &= 4 \\ 3x - 7y &= -10\end{aligned}$$