

## Solve Systems of Equations by Elimination/Addition/Linear Combination

### Algorithm

1. If necessary, multiply either or both equations by numbers which will make the coefficients of one of the variables the same but opposite in sign
2. Add the equations together
3. Solve the resulting equation
4. Substitute that value into one of the given equations to find the value of the other variable
5. Write the solution as an ordered pair

1  $x + y = 11$   
 $x - y = 7$

2  $2x - y = 5$   
 $3x + y = 25$

3  $x + 2y = 12$   
 $x - y = 4$

4  $y = 2x + 4$   
 $5x - y = 2$

5  $3x + 2y = 14$   
 $x - y = 3$

6  $2x + 7y = 4$   
 $3y = x + 11$

7  $x + y = 5$   
 $x - y = 1$

8  $x - y = 10$   
 $x + y = 20$

9  $x + y = 15$   
 $4x = 16$

10  $3x + 2y = 1$   
 $x - 2y = -13$