

1. Solve each of the following equations by eliminating the variable "x".

a.  $4x + 3y = 77$

b.  $3x + 2y = 5$

c.  $3x - 4y = 18$

$7x + 3y = 137$

$x - 4y = 18$

$2x + 5y = -11$

2. Solve each of the following equations by eliminating the variable "y".

a.  $2x - 3y = 8$

b.  $3x + 4y = 14$

c.  $4x - y = 13$

$3x - 2y = 27$

$2x - 5y = -6$

$3x + 7y = 2$

3. Solve each of the following equations by substitution.

a.  $x = 2y + 4$

b.  $x = 2 - y$

c.  $y = 2x + 1$

$5x - 4y = 2$

$x - y = 1$

$4x - 2y = 5$

4. Solve each of the following by eliminating the variable "x".

a.  $5x + 5y = 3$

b.  $5x + 2y = 2$

c.  $4x + 5y = -3$

$3x - 3y = 5$

$4x + 5y = 1$

$8x - 3y = -3$

5. Describe how you would decide whether to use the method of substitution or the method of elimination.

6. Describe how you would decide whether to eliminate the variable "x" or the variable "y" when using the method of elimination.

## Solving Systems by Elimination

Solve each system by elimination.

1)  $-8x - 5y = -26$   
 $4x + 5y = -2$

2)  $6x - 5y = -12$   
 $-6x - 10y = 12$

3)  $x + 2y = -20$   
 $x + 2y = -23$

4)  $-4x + y = 0$   
 $-4x + 3y = 16$

5)  $-4x - 7y = -19$   
 $12x - 10y = 26$

6)  $x - y = 5$   
 $-4x - 2y = 10$

7)  $3x + 5y = -15$   
 $-2x + 8y = -24$

8)  $-10x + 6y = 16$   
 $-6x + 7y = -4$

9)  $3y + 8 = -2x$   
 $\frac{68}{5} = -2x - \frac{22}{5}y$

10)  $\frac{1}{2}x - \frac{1}{6}y = 1$   
 $23 + 3y = 4x$

## Answers to Solving Systems by Elimination

1)  $(7, -6)$

2)  $(-2, 0)$

3) No solution

4)  $(2, 8)$

5)  $(3, 1)$

6)  $(0, -5)$

7)  $(0, -3)$

8)  $(-4, -4)$

9)  $(2, -4)$

10)  $(-1, -9)$