

Topic 3.2  
Solving Systems of Equations Algebraically  
Homework

Name: \_\_\_\_\_  
Date: \_\_\_\_\_

**Solve each system of equations by using substitution.**

1.  $y = 3x + 4$   
 $4x + 2y = 18$

2.  $2x + 3y = 2$   
 $x - 3y = -17$

3.  $5x + 6y = 18$   
 $12y - 4x = 8$

4.  $3x - 4y = -27$   
 $2x + y = -7$

5.  $x = 4y - 10$   
 $5x + 3y = -4$

6.  $\frac{3}{4}x - y = 0$   
 $\frac{y}{3} + \frac{x}{2} = 6$

**Use elimination to solve the systems of equations.**

7.  $x - 2y = 4$   
 $y = x - 2$

8.  $x + 3y = 18$   
 $-x + 2y = 7$

9.  $4x - 3y = 22$   
 $2x + 8y = 30$

10.  $\frac{1}{3}x + y = 1$   
 $-4x + y = 1$

11.  $y = \frac{x}{2}$   
 $2y = x + 4$

12.  $\frac{2}{7}x - \frac{4}{3}y = 16$   
 $\frac{4}{7}x + \frac{8}{3}y = -16$