Section 1.2 Practice Master

1. Solve each linear system using the method of substitution. Check your answers.
   a) $y = 2x - 3$
   $x + y = 6$
   b) $x = -4y - 6$
   $2x + 6y = 5$
   c) $2x + y = 6$
   $3x + 2y = 10$
   d) $5 = 2y - x$
   $7 = 3y - 2x$

2. In each pair of linear equations, decide which equation you will use to solve for one variable in terms of the other variable. Do that step. Do not solve the linear system.
   a) $3x + 2y = 6$
   $x + 6y = 5$
   b) $2x + y = 7$
   $3x + 4y = 5$
   c) $-x + 3y = 4$
   $3x + 2y = 5$
   d) $3x - 4y = 6$
   $x - y = 11$

3. Is $(2, -3)$ the solution for the following linear system? Explain how you can tell.
   $3x + 6y = -12$
   $2y - 8x = -22$

4. Solve by substitution. Check your solution.
   a) $3x = y + 3$
   $2x + 3y = 13$
   b) $4x - y = -9$
   $3y - 2x = 17$
   c) $2c - d + 2 = 0$
   $3c + 2d + 10 = 0$
   d) $4x + y = 0$
   $x + 2y + 1 = 0$

5. Simplify each equation, and then solve the linear system by substitution.
   a) $3(x + 1) - 2(y - 2) = -6$
   $x + 4(y + 3) = 29$
   b) $2(x - 1) - 3(y - 3) = 0$
   $3(x + 2) - (y - 7) = 20$
   c) $2(3x - 1) - (y + 4) = 7$
   $4(1 - 2x) - 3(3 - y) = -12$
   d) $2(x - 1) - 4(2y + 1) = -1$
   $x + 3(3y + 2) = 2$

6. The number of tickets sold for a school event is 330. Let a represent the number of adult tickets sold and s represent the number of student tickets sold. The cost of a student ticket is $6 and the cost of an adult ticket is $10. In total, $2380 was taken in from ticket sales.
   a) Write a linear system to represent the information.
   b) Solve the linear system to find the number of each type of ticket sold.

7. Phoenix Health Club charges a $200 initiation fee, plus $15 per month. Champion Health Club charges a $100 initiation fee, plus $20 per month.
   a) Write a linear equation to represent the charges for each club.
   b) Solve the linear system.
   c) After how many months are the costs the same?
   d) If you joined a club for only 1 year, which club would be less expensive?