Name: _____   Date: _____

Practice: Solve Linear Systems by Graphing

1. Find the point of intersection of each linear system. Check your answers.
   a) $y = x - 5$
      $y = -x + 3$
   b) $y = 2x + 2$
      $y = 3x + 1$
   c) $y = x - 1$
      $y = -2x - 7$
   d) $y = 2x - 2$
      $y = -x + 7$

2. Solve each linear system by graphing.
   a) $y = -4x$
      $y = \frac{1}{2}x + 9$
   b) $y = \frac{1}{4}x + 3$
      $y = 2x - 4$
   c) $y = \frac{2}{5}x - 2$
      $y = -5x - 2$
   d) $y = -\frac{1}{3}x + 1$
      $y = \frac{3}{4}x - 12$

3. Solve each linear system by graphing. Check your answers.
   a) $x + y = 2$
      $x - 5y = -4$
   b) $4x - y = 6$
      $-x + 2y = 2$
   c) $2x + 3y = -12$
      $3x + y = -18$
   d) $x - y = -4$
      $2x - 3y = -5$

4. Find the point of intersection by graphing. Check your answers.
   a) $-x + y = 1$
      $x - 3y = -1$
   b) $x + y = -6$
      $2x + y = 0$
   c) $y = -3x$
      $2y = x + 7$
   d) $x + 2y = -6$
      $x + 4y = -16$

5. Pin Town charges $3 for shoe rental plus $5 per game. Bowl-In-One charges $5 for shoe rental plus $4 per game. Let y represent the total cost for going bowling and x represent the number of games played.
   a) Write an equation to represent the total cost to bowl at Pin Town.
   b) Write an equation to represent the total cost to bowl at Bowl-In-One.
   c) Find the point of intersection. What does this point of intersection represent?

6. The student council is deciding which banquet hall to book for this year's graduation dinner and dance. Thompson Hall charges a fixed cost of $1200 plus $35 per student. Adeline's Country Club charges $1000 plus $40 per student. Let C represent the total cost, and n represent the number of students who will be attending.
   a) Write an equation to represent the total cost for booking Thompson Hall.
   b) Write an equation to represent the total cost for booking Adeline's Country Club.
   c) Find the number of students for which the total cost is the same at both establishments.

7. During the summer months, Jake and his brother mow lawns and weed gardens for $25 each visit. Julie's Landscaping Company charges $120 for the season.
   a) Write an equation to represent the total cost for Jake and his brother to mow and weed your lawn and garden for the season.
   b) Write an equation to represent the total cost for Julie's Landscaping Company for the season.
   c) Explain how you would decide who to hire to take care of your lawn and garden this summer.

8. Use a graphing calculator. Graph $y = 3x - 1$ and $y = -\frac{1}{2}x + 6$ in the same window. Find the point of intersection of the lines.