Algebra 1   Name_____

Review Chapter :
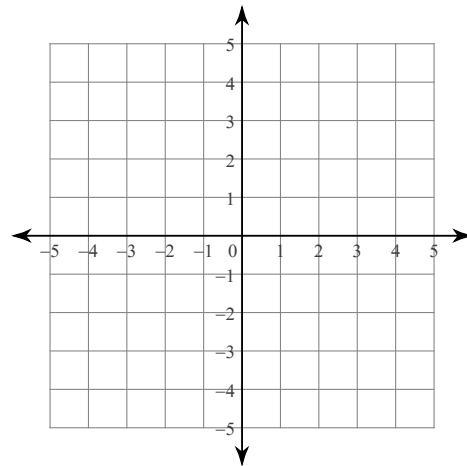
Solve each system by graphing and sketch the graph.

1) $y = 3x + 4$
   $y = -4x - 3$

2) $y = -\dfrac{3}{2}x - 1$ $y = -\dfrac{3}{2}x + 1$

3) $y = 5x - 3$
   $y = -x + 3$

4) $x = -3$
   $x - y = -4$
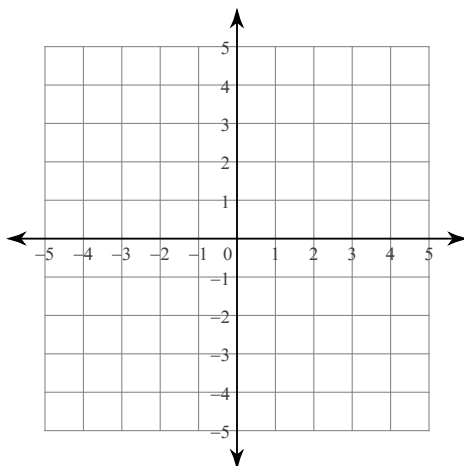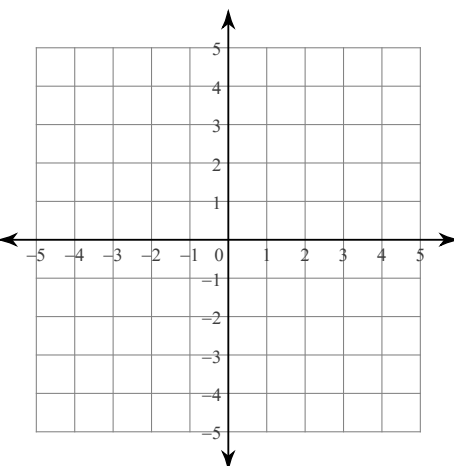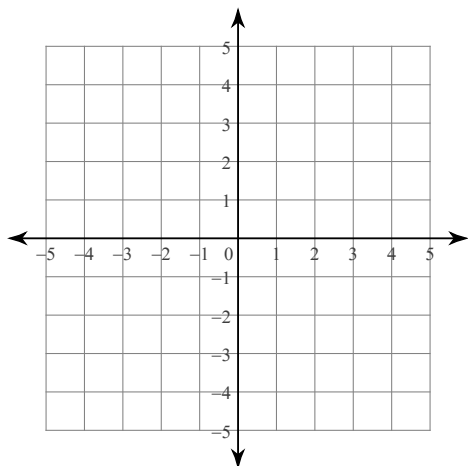
Solve each system by substitution.

5) $-5x + 2y = 32$
   $y = -3x - 6$

6) $-6x + 12y = -18$
   $y = 11x - 12$

7) $-22x + 33y = 132$
   $x = -y + 34$

8) $x = -7 - 3y$
   $x + 6y = -10$

Solve each system by elimination.

9) $-4x - y = -12$
   $4x - 2y = 12$

10) $-3x + 2y = 6$
    $3x - 4y = -12$

11) $12x + 7y = 15$
    $-6x - y = -15$

12) $-2x + 6y = -6$
    $-5x + 4y = 18$

Solve each system by graphing, substitution, or elimination.
If appropriate, write "no solution" or "infinitely many solutions."

13) $-7x + 5y = -21$
    $-x + y = -5$

14) $-5x + y = 8$
    $15x - 3y = 5$

15) $x + 3y = -31$
    $3x + 9y = -93$

16) $8x - 4y = 0$
    $-x + y = 5$

Sketch the solution to each system of inequalities.

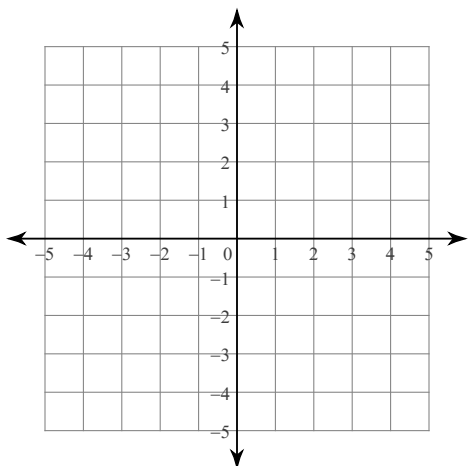17) $y \leq -3$
$\quad y \leq 3x + 3$
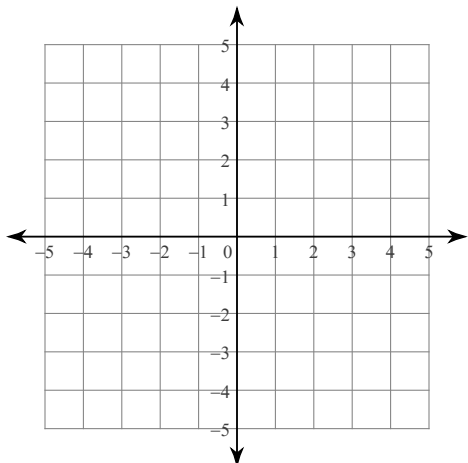
18) $y \geq \dfrac{5}{3}x - 3$

$\quad y < \dfrac{1}{3}x + 1$
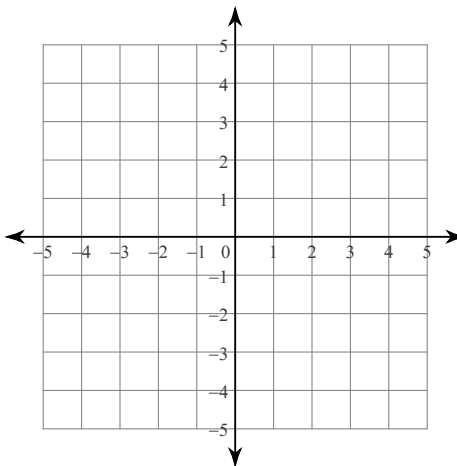
19) $x + y > 3$
$\quad 2x - y > 3$

20) Is the point $(2, 1)$ a solution to the system of inequalities in number 19?

Review Application and Extension

Use a system of linear inequalities to solve each problem. (Use a separate sheet for more room.)

1. You have a money jar containing nickels and quarters worth $1.55. The money jar contains 11 coins. How many of each coin do you have?

   a. Complete the following:

   _____ + _____ = 11   (Representing the number of coins)

   0.05_____ + 0.25_____ = $1. 55   (Representing the value of the coins)

   b.   Now solve your system to answer the question!

2. It's time for an AlgeParty! Brust goes out and buys three rolls of streamers and fifteen party hats for $30. Sully buys two rolls of streamers and 4 party hats for eleven dollars at the same store. Find the cost of streamers and the cost of party hats by solving a system of linear equations. (Hint: write one equation for Brust and one for Sully)

3. An amusement park charges an admission fee plus a fee for each ride you go on. Admission plus two rides costs ten dollars. Admission plus five rides costs sixteen dollars. Find the cost of admission and the cost of a ride.

4. A clothing manufacturer wants to produce denim jeans and denim jackets. Each pair of jeans requires two yards of denim and takes 0.25 hr to make. Each jacket requires 3 yards of denim and takes 0.5 hr to make. The manufacturer has 800 yards of denim and 120 hours to spend making jeans and jackets.

   Let *x = # of pairs of jeans* and *y = # pairs of jackets*.
   a. Explain each inequality in the context of this problem.

   x = # of pairs of jeans   y = # of jackets

   $2x + 3y \leq 800$ _____

   $0.25x + 0.5y \leq 120$ _____

   $X \geq 0$ _____

   $y \geq 0$ _____