

## SECTION 5.7: GRAPHING SYSTEMS OF LINEAR INEQUALITIES

Homework: \_\_\_\_\_

Dotted Lines:

Solid Lines:

Shade **above** the line:

Shade **below** the line

### Steps on Graphing Systems of Linear Inequalities

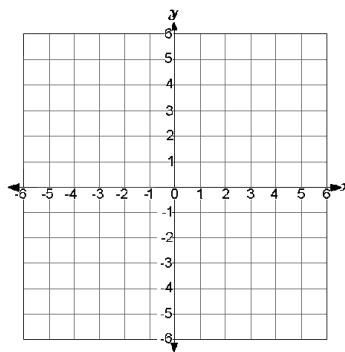
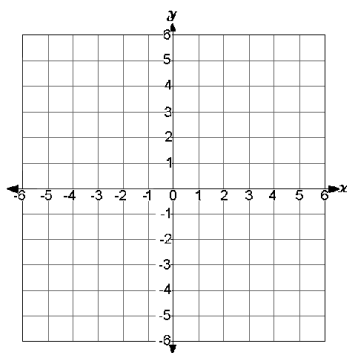
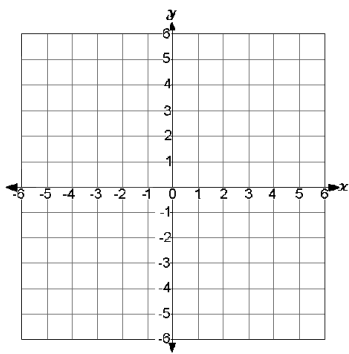
1. Solve each equation for y
  - a. Remember to flip the inequality if you divide by a negative!!!
2. Determine the m & b for each equation
3. Graph and shade the 1<sup>st</sup> line (dashed or solid?)
4. Graph and shade the 2<sup>nd</sup> line (dashed or solid?)

Solution: The solution region for a linear inequality is in the \_\_\_\_\_. To determine if a point is a solution, just plot it and see if it is in the \_\_\_\_\_

1.  $y > -x - 2$   
 $y < -5x + 2$

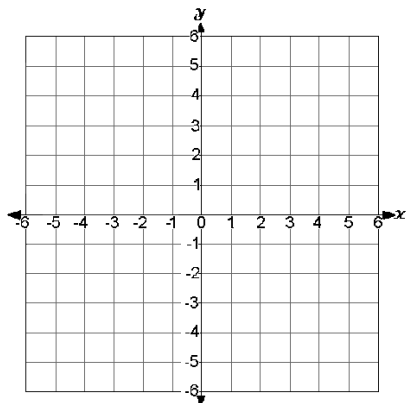
2.  $y \leq \frac{1}{2}x + 2$   
 $2x + y < -3$

3.  $x > -2$   
 $-3x - 2y > 2$

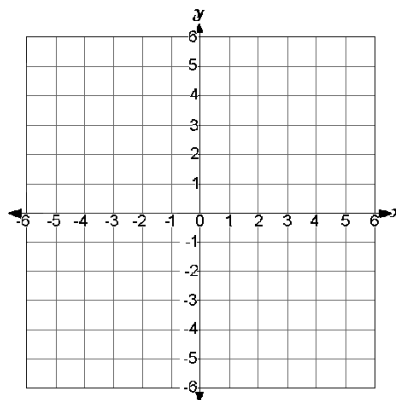


Graph each system of inequalities on a coordinate plane to determine the solution area.

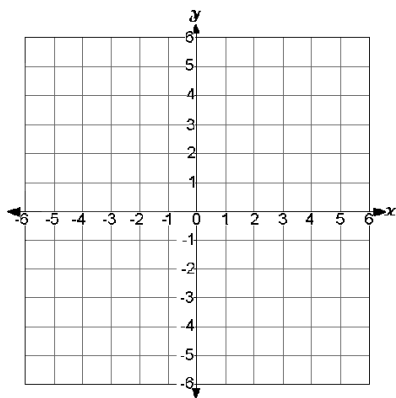
4.  $y > -3$   
 $3y \leq 5x + 6$



5.  $y \leq \frac{2}{3}x + 3$   
 $3y \geq -4x - 9$



6.  $x \leq -3$   
 $3y \leq 5x + 6$



7.  $y \leq x + 3$   
 $x - y < 4$

