**3.3 – Systems of Inequalities**

**System of Linear Inequalities**: two or more equations with inequality signs (<, >, ≥, ≤) in place of =

**Solution**: an ordered pair, (x, y), that is true for each inequality

Note: Although you could use similar methods to Section 3.2 to solve systems of inequalities the most common way is to graph (also an option for a system of equations).

Difference between equations and inequalities:

-In a system of equations the solution is the point where the lines cross.

-In a systems of inequalities the solution is the set of all points that are   
 solutions of each inequality in the system.

Steps:

1. Graph and lightly shade the 1st equation.
2. Graph and lightly shade the 2nd equation.

(Remember to use a dashed line for an inequality with < or > and a solid line for an inequality with ≥ or ≤)

1. Identify the area that was shaded in both cases. (Using different colors to shade may help)

**The graph of the system is the region common (where all overlap, or, the shared region) to all of the half-planes.**

Examples:

1.)

2.)

3.)

4.)

**HMWK: pg 152 #1-2, 6-7, 9-15 (odd), 20-22, 29**