Pg. 36-37 Solving Inequalities Section: 3.3

P. 36

Warm up: Draw the number line and graph the inequalities.

$x < 4$

$x \geq -2$

pick up graphs and glue stick

Learning Targets

I CAN solve and graph inequalities

I CAN graph a two-variable inequality and determine where its solution(s)are located.

Pg. 36-37 Solving Inequalities Section: 3.3

3.3 Solving Systems of Inequalities

P. 36

The solution of a linear system of equations occurs where the two lines intersect.

Likewise, the solution of system of linear inequalities occurs where the two regions overlap.

Any ordered pair that lies in the overlapping is a solution.

Steps to Solving Systems of Inequalities

Step 1: Put all inequalities in slope-intercept form. $y=mx+b$

Step 2: Graph the inequalities.

Step 3: Shade the solution for each inequality. (Use different colors for each.
Darken the region where color overlaps.) ***The overlap of the two regions is your SOLUTION!***

P. 37

Example 1. ***Solve the system of inequalities.***

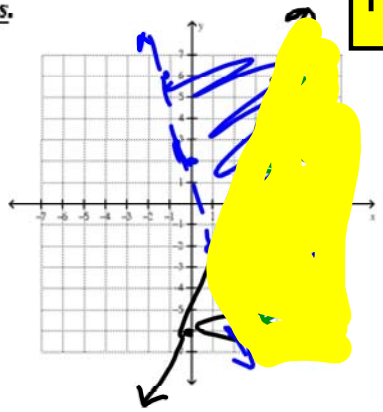
$$\begin{cases} y \le 3x-6 \\ y > -4x+2 \end{cases}$$

$0 \le 3(0)-6$

$0 \le -6$

$0 > -4(0)+2$

$0 > 2$



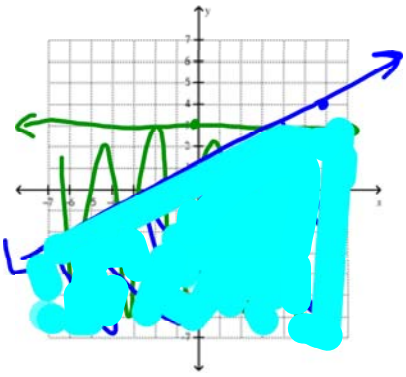
Example 2.

$$\begin{cases} y \le 3 \\ y \le \frac{1}{2}x+1 \end{cases}$$

$0 \le 3$

$0 \le \frac{1}{2}(0)+1$

$0 \le 1$



Example 3.

$$\begin{cases} -x-y \le 2 \\ y-2x>1 \end{cases}$$

$-y \le x+2$

$\frac{-y}{-1} \le \frac{x}{-1} + \frac{2}{-1}$

$y \ge -1x-2$

$0 \ge -1(0)-2$

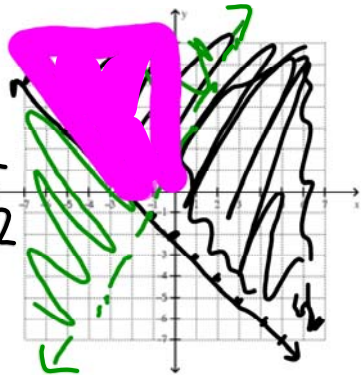
$0 \ge -2$

$+2x \quad +2x$

$y > 2x+1$

$0 > 2(0)+1$

$0 > 1$



Homework. Worksheet 3.3

H's 1, 3, 5, 7 + 9