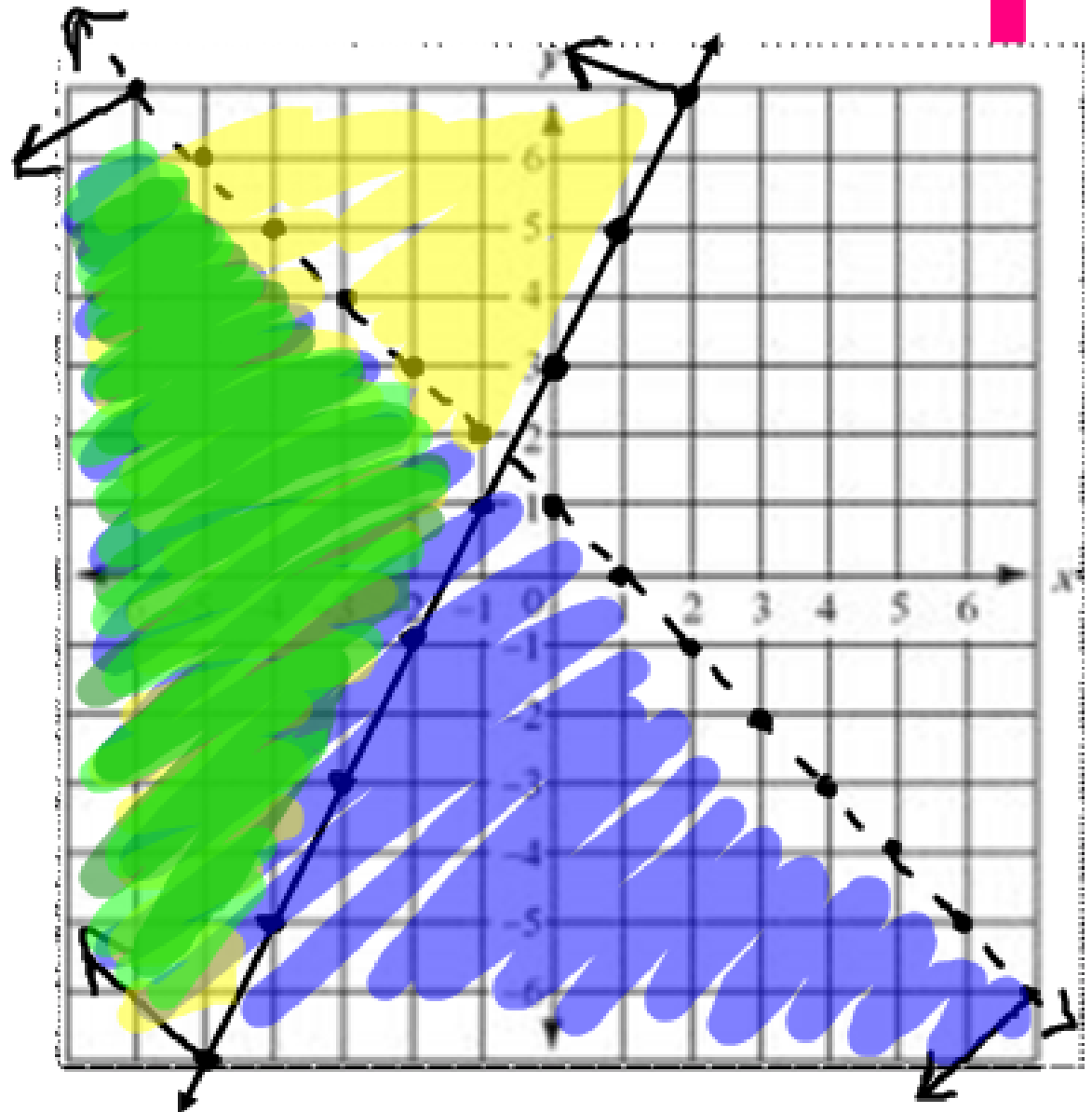# 7 - 5
Graphing Systems of Inequalities

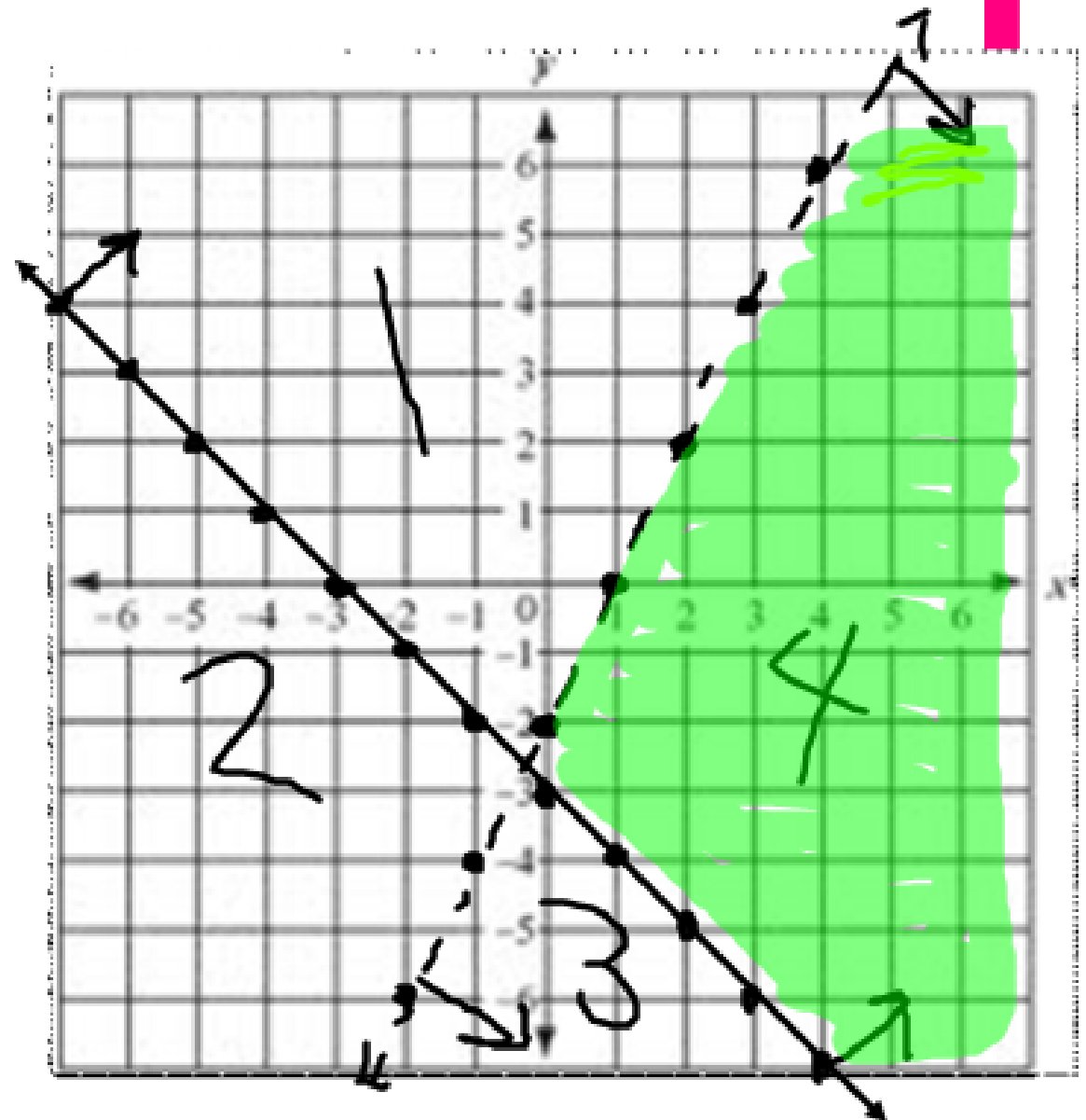**system of inequalities:** ordered pairs that satisfy <u>ALL</u> inequalities

Solve the following systems of inequalities by graphing.
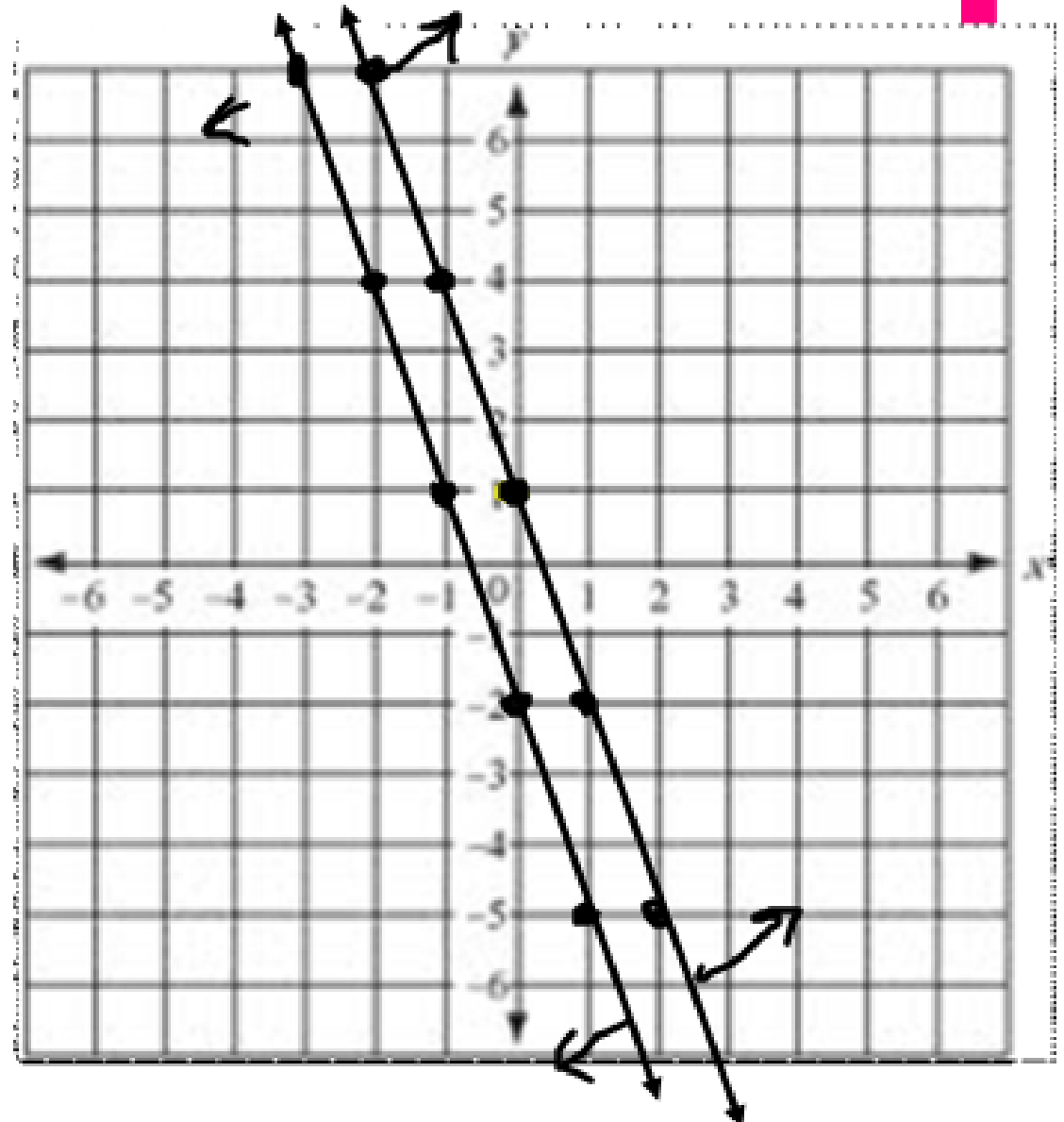
Ex: $y < -x + 1$
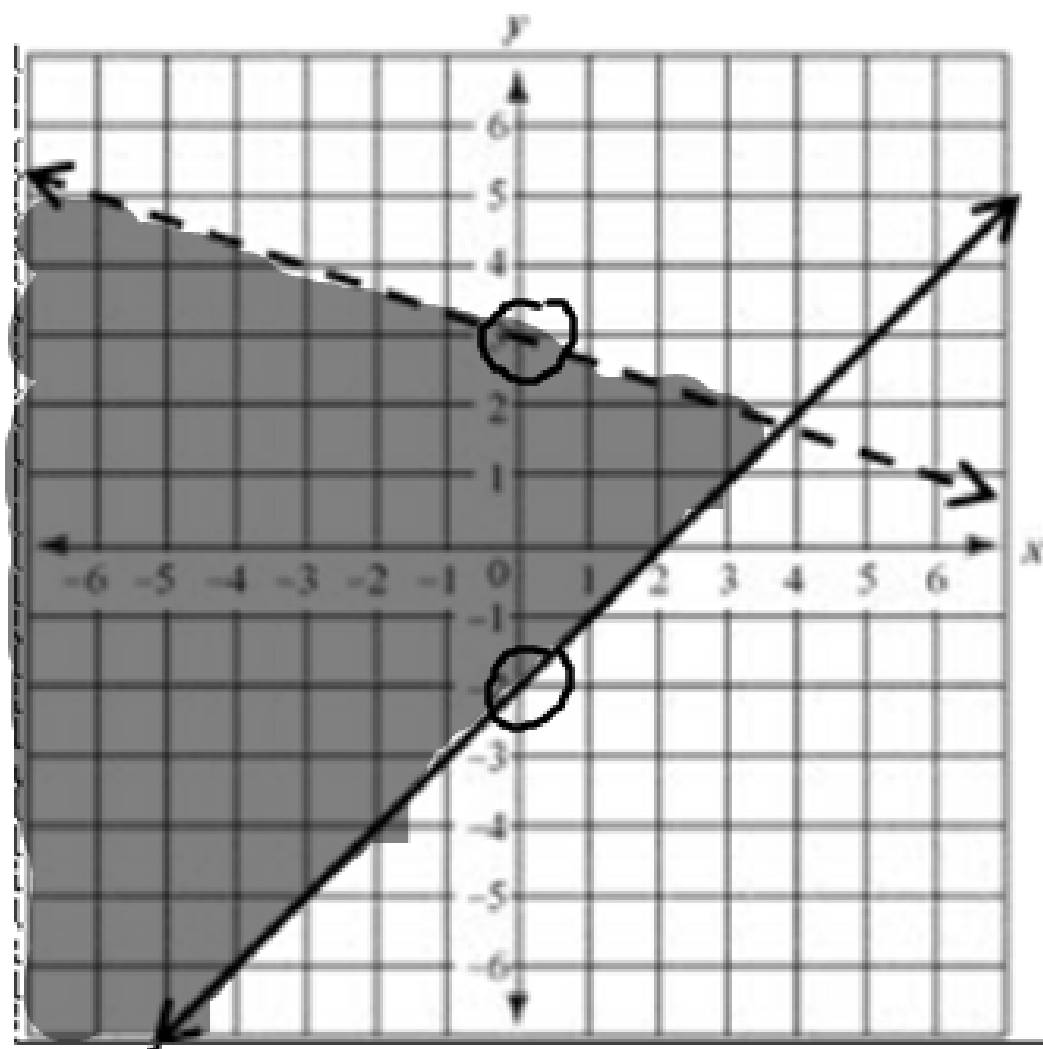$y \geq 2x + 3$

Ex: x - y < -1
x - y > 3

no solution

$$x - y < -1$$
$$-x \quad\quad -x$$

$$-y < -x - 1$$

$$\boxed{y > x + 1}$$

$$x - y > 3$$
$$-x \quad\quad -x$$

$$-y > -x + 3$$

$$\boxed{y < x - 3}$$

Ex: y < 2x - 2
y ≥ - x - 3

Ex: $y \geq -3x + 1$
$ y \leq -3x - 2$

no solution

$\dfrac{-3}{1} = 3$

Ex: Write a system of inequalities for the following graph.

$$y \geq x - 2$$

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

Homework:

7 - 5 WS (odds)