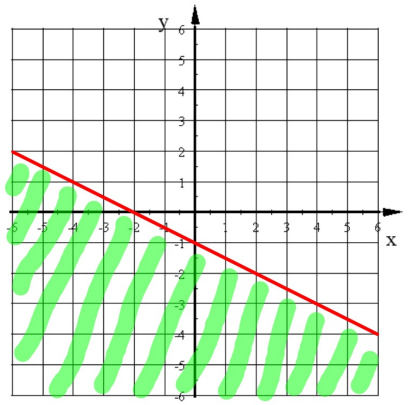
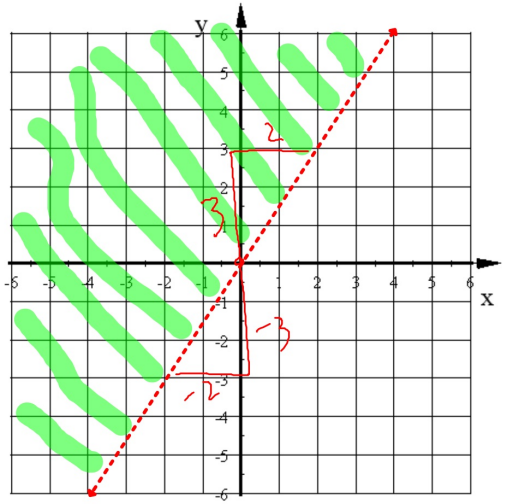
Model this graph with an inequality.



$y \leq -1 - \frac{1}{2}x$

Model this graph with an inequality.



$y > \frac{3}{2}x$

Hwk #18

Sec 7-5

Pages 373-374 (Use the paper I've printed)

Problems 5-10, 13, 18, 30, 31, 34, 36.

You are camping along a stream and need to make a roundtrip between the local store and your campsite. You canoe upstream (against the current) 3.75 miles in 1 1/2 hours. The return trip is downstream (with the current) and takes only 1/2 an hour. Write and solve a system of equations to find the speed of the river's current and the speed that you could paddle the canoe if there were no current.

$p = 5\text{mph}$
$w = 2.5\text{mph}$

$\frac{3.75}{1.5} = \frac{1.5(p-w)}{1.5}$ $\quad 2.5 = p - w$

$\frac{3.75}{.5} = \frac{.5(p+w)}{.5}$ $\quad 7.5 = p + w$

$10 = 2p$

At the begining of the game you go to concession stand and buy 2 Cokes and 3 Hot Dogs for $17.75. The game goes into overtime and you get hungry so you return to the concession stand and buy 1 Coke and 2 Hot Dogs for $10.75. Write and solve a system of equations to find the price of a Coke and a Hot Dog.

$2C + 3H = 17.75$

$2(C + 2H = 10.75)$ $-$

$2C + 3H = 17.75$

$2C + 4H = 21.50$

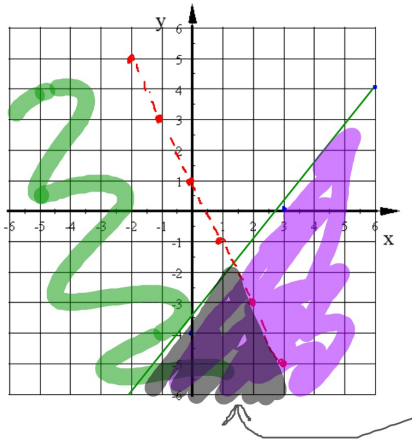
$-1H = -3.75$

$H = 3.75$

$C = 3.25$

Graph these two inequalities on the same graph.

$y < -2x + 1$ $\quad 8x - 6y \geq 24$



System of Inequalities: Two inequalities on the same graph.

Solution to a system of Inequalities: The area that gets shaded twice.

Is (-4, 3) a solution to this system of inequalities?

$y > 2x + 5$ $\quad 3 > 2(-4)+5$ $\quad 3 > -3$ TRUE

$2x + 2y > 3$ $\quad 2(-4) + 2(3) > 3$

$-8 + 6$

$-2 > 3$ FALSE

(-4, 3) NOT A SOL TO THE SYSTEM b/c IT doesn't make both true

Graph this system of inequalities:

$y \leq -2x + 3$

$3x + 15y > 15$

X-INT = 5

Y-INT = 1