Homework Questions??

#35 $(-3x+y=4)$

$15x = 5y - 20$

$-5y \quad -5y$

$15x - 5y = -20$

$-15x+5y=20$

$15x-5y=-20$

$0=0$ ✓

Infinitely many solutions

GUIDED NOTES: Solve Systems of Inequalities by Graphing

To solve a system of inequalities, we need to find the ordered pairs that satisfy all of the inequalities of the system. The solution is their intersection.

Solid Line	Dotted Line	Shade Above	Shade Below
$\leq$	$<$	✱ test point	
$\geq$	$>$		

EX1. Solve the system of inequalities by graphing:

$y > -2x + 4$ (0,0)

$y \leq x - 2$ (0,0)

$0 > -2(0) + 4$

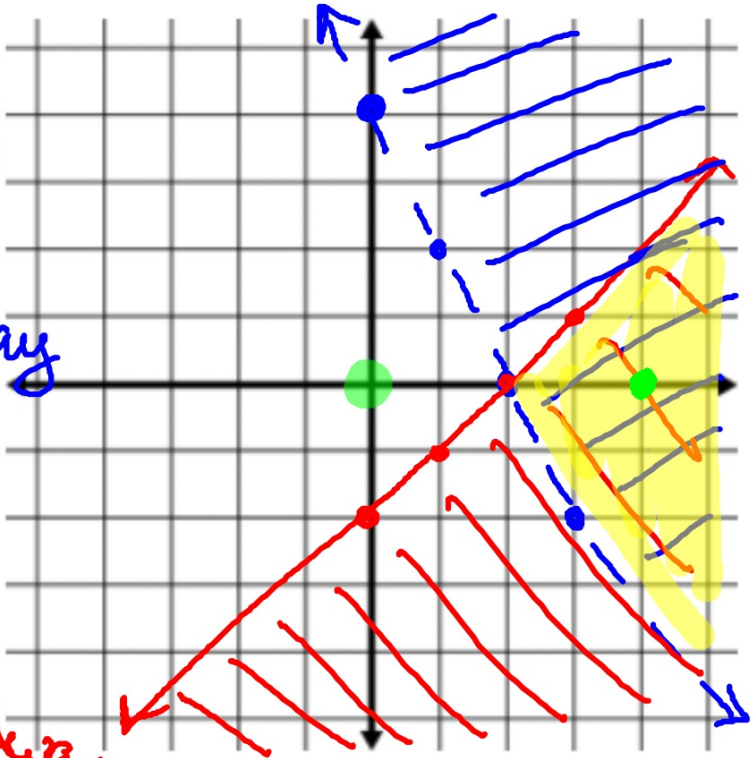
$0 > 4$

False! Shade Away

$0 \leq 0 - 2$

$0 \leq -2$

False! Shade Away



EX2. Solve the system of inequalities by graphing:

$3x + y \leq 4$

$x - 2y > -4$

$3x + y \leq 4$

$-3x \qquad -3x$

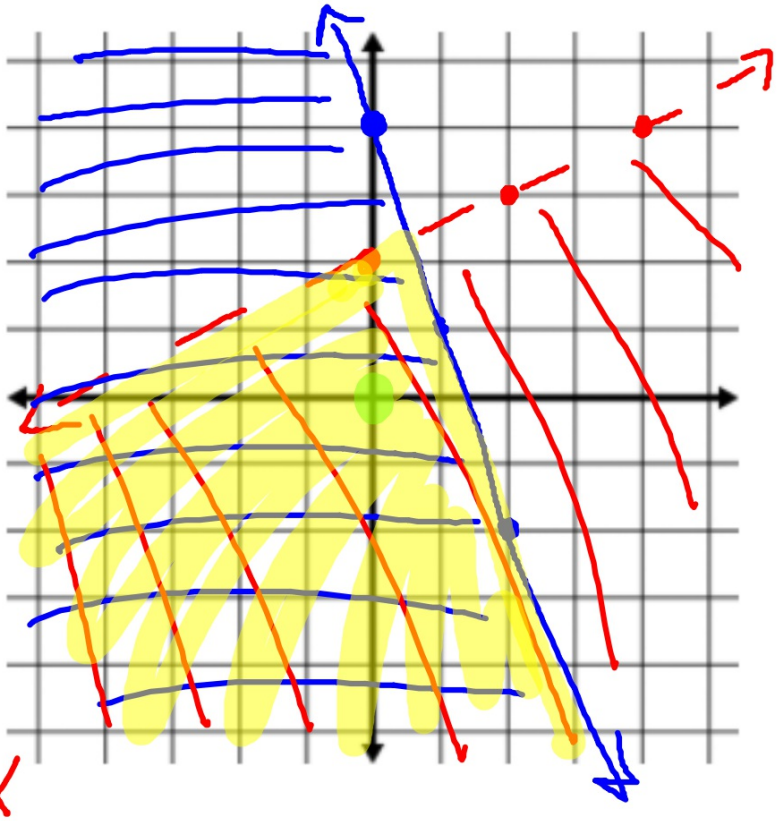
$y \leq 4 - 3x$

$x - 2y > -4$

$-x \qquad -x$

$\frac{-2y}{-2} < \frac{-4 - x}{-2}$

$y < 2 + \frac{1}{2}x$



EX3. Solve the system of inequalities by graphing:

$-y > x$

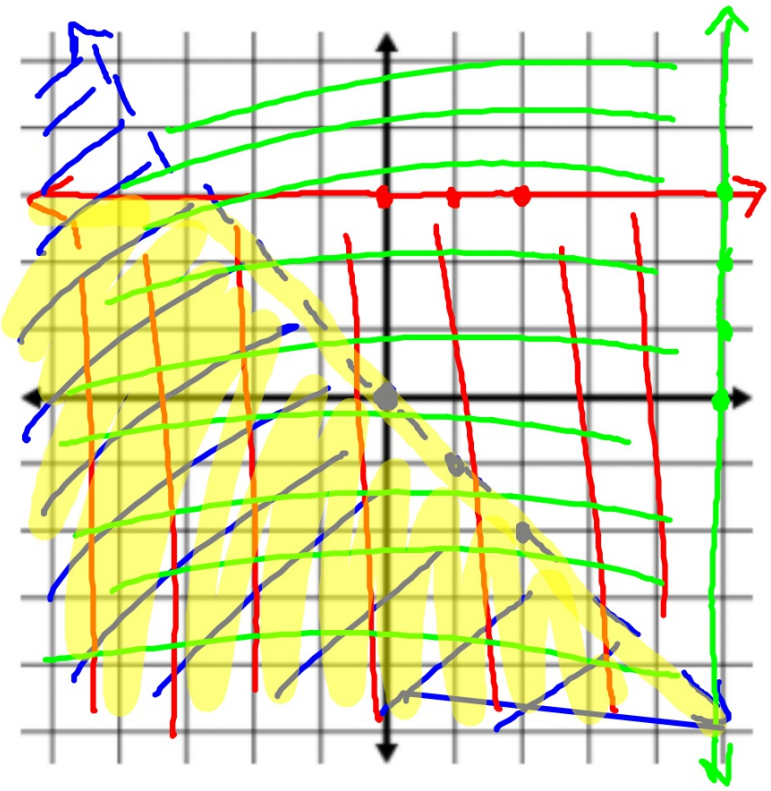
$y \leq 3$

$x \leq 5$

$-y > x$

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

$y < -x$



y x

EX4. Sarah's Pet Store never has more than a combined total of 16 cats and dogs. She also never has more than 9 cats. Write a system of inequalities and graph to show the possible number of cats and dogs in her store.

$y + x \leq 16$

$y \leq 9$

$y \leq 16 - x$