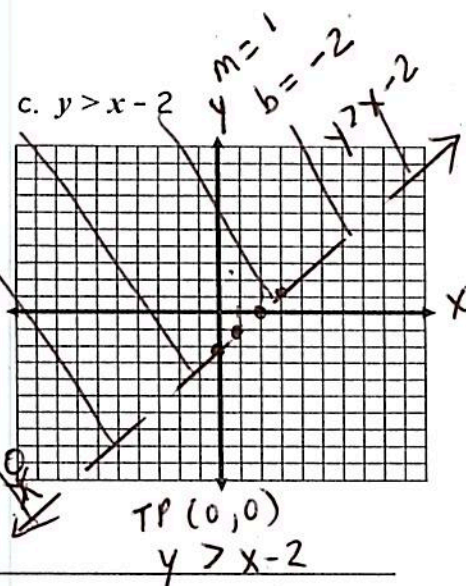
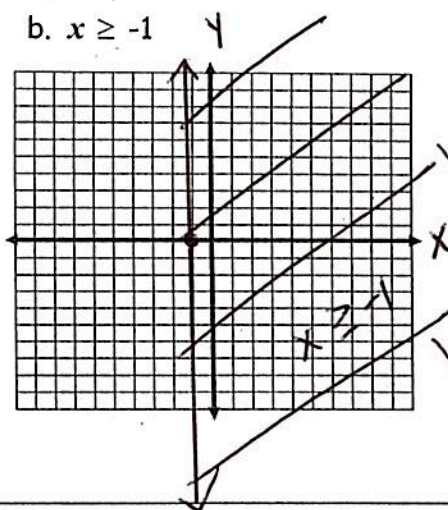
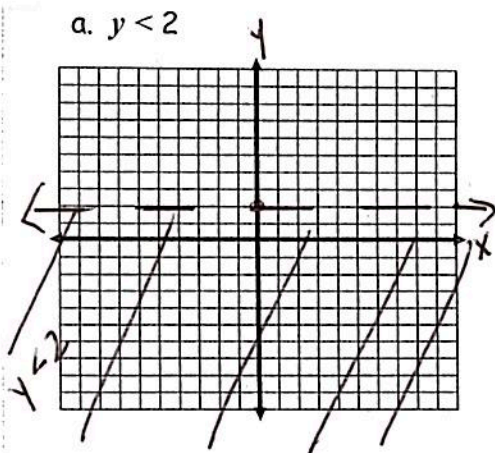


Algebra RH

Essential Question: How do we graph systems of linear inequalities?

Do Now: Graph the following linear inequalities.



System of Linear Inequalities:

Two or more inequalities graphed on the same coordinate plane

Their solution is where the shaded regions overlap. Label that region with a letter.

A solution of a system of linear inequalities is an ordered pair that is a solution in each inequality (works algebraically when substituted into both inequalities).

Graph the system of inequalities.

$$y \geq x - 2 \quad m=1 \quad b=-2$$

$$y < x + 1 \quad m=1 \quad b=1$$

testing point (0,0)

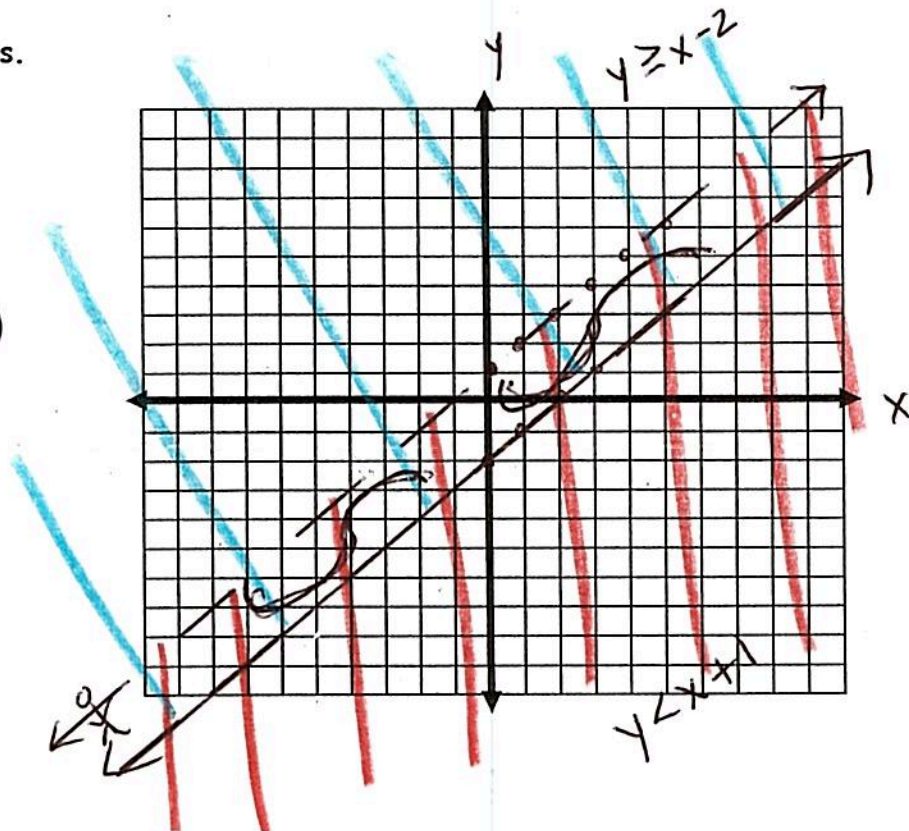
$$y \geq x - 2 \quad y < x + 1$$

$$0 \geq 0 - 2 \quad 0 < 0 + 1$$

$$0 \geq -2 \quad 0 < 1$$

✓

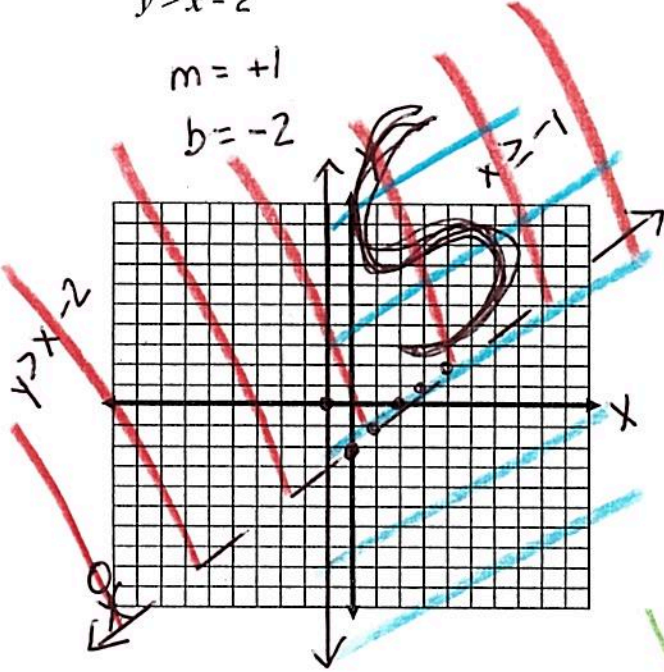
✓



Examples: Graph the following systems of inequalities.

1. $x \geq -1$
 $y > x - 2$

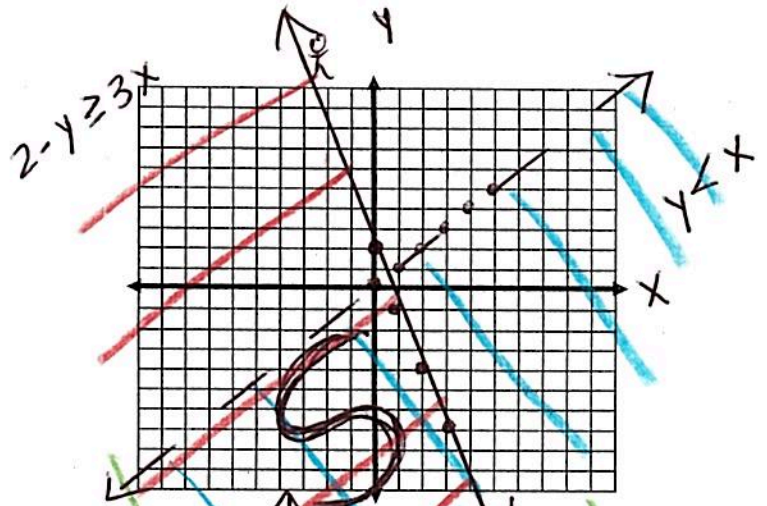
$m = +1$
 $b = -2$



2. $2 - y \geq 3x$
 $2y < 2x$

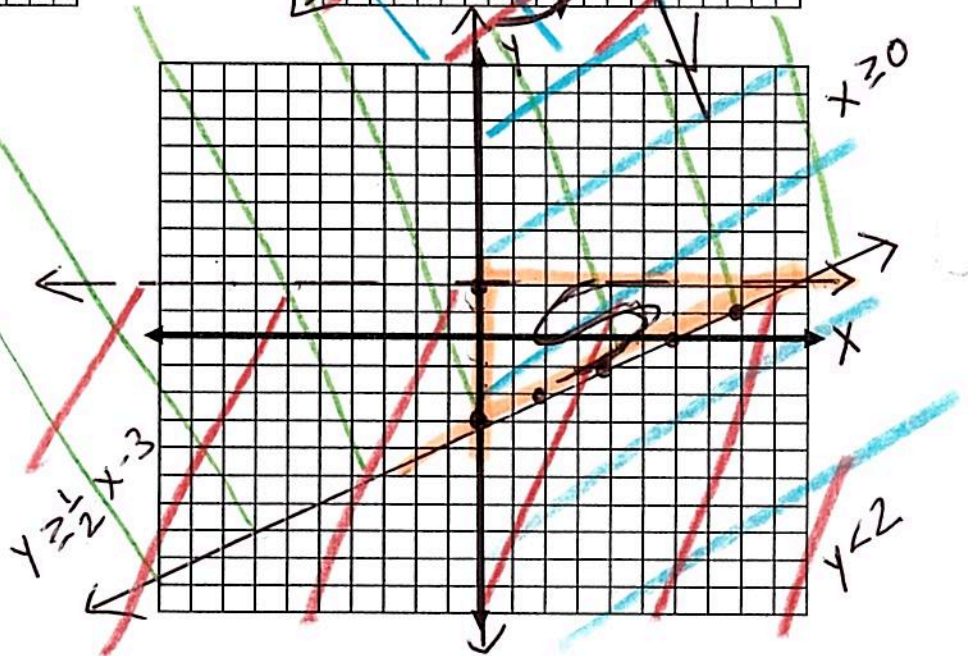
$y < x$ $m = 1$
 $b = 0$

$-y \geq 3x - 2$
 $y \leq -3x + 2$
 $m = -3$
 $b = 2$



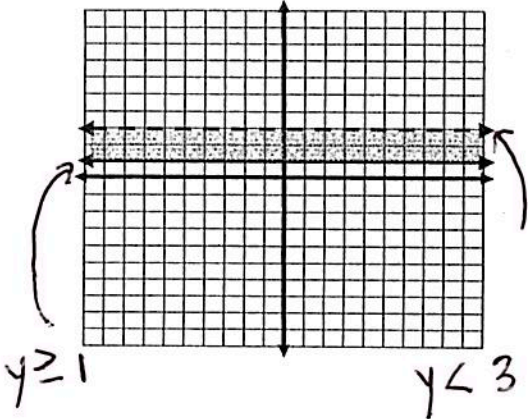
3. $y < 2$
 $x \geq 0$
 $y \geq \frac{1}{2}x - 3$

$m = \frac{1}{2}$
 $b = -3$

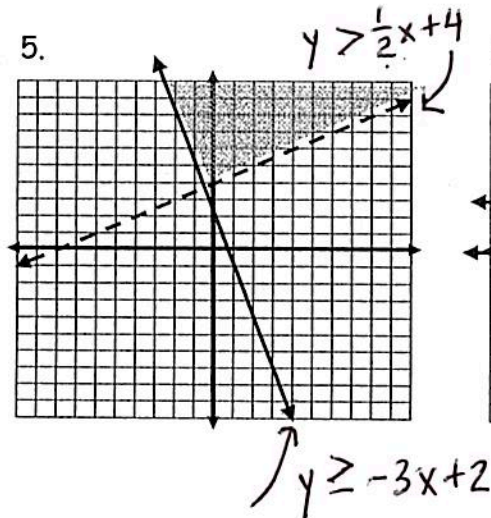


For examples 4-6, write a system of inequalities that defines the shaded region.

4.



5.



6.

