



Chapter 7 Section 6

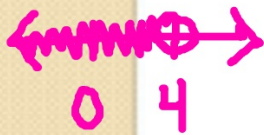
Systems of Linear Inequalities

Inequality Review

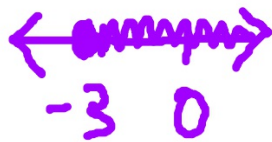
- Graph the following Inequalities

Examples:

① $x < 4$



② $x \geq -3$



③ $x \leq 0$



④ $x > 2$



Graphing Systems of Inequalities

- STEPS:

- Rewrite equations in slope-intercept form $y=mx+b$
- Graph the first equation
- Shade in the correct area
- Graph the second equation
- Shade in the correct area
- Where the shading overlaps is the answer
 - $<$ or $>$ is a dotted line
 - \leq or \geq is a solid line

Examples:

1. $2x + y \geq -4$

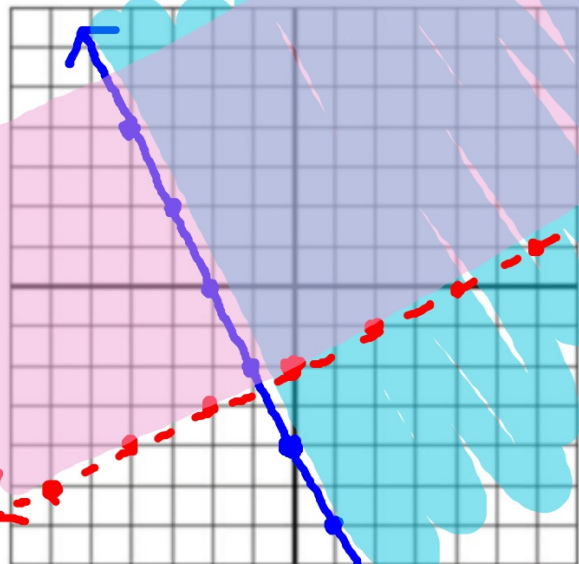
$x - 2y < 4$

~~$y < -x + 4$~~
 ~~$-x$~~ ~~-2~~ ~~-2~~

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

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

$y \geq -2x - 4$
 $m = -\frac{2}{1} \quad b = -4$



Examples:

- 2. $-x + y \geq -2$

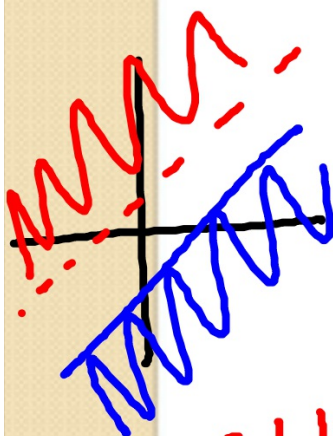
$$y - \cancel{1} < x$$

$+1 \quad +1$

$$y < x + 1$$

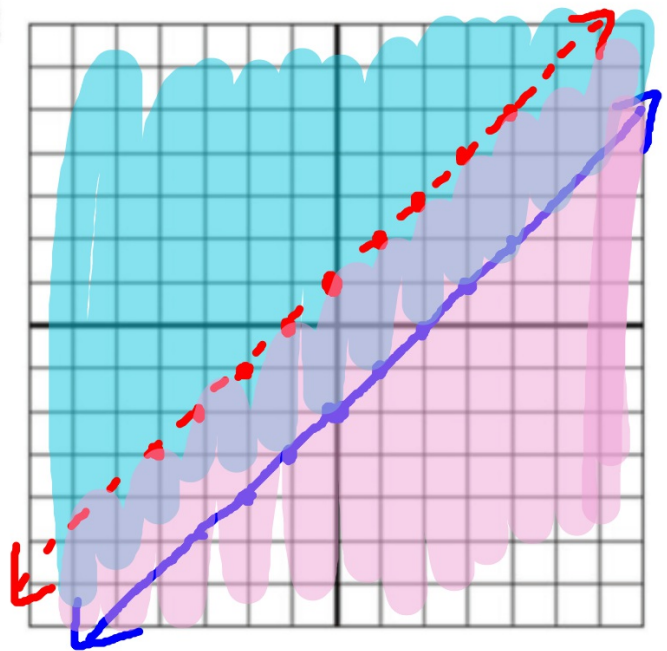
$$m = \frac{1}{1}$$

$$b = 1$$



No Solution

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

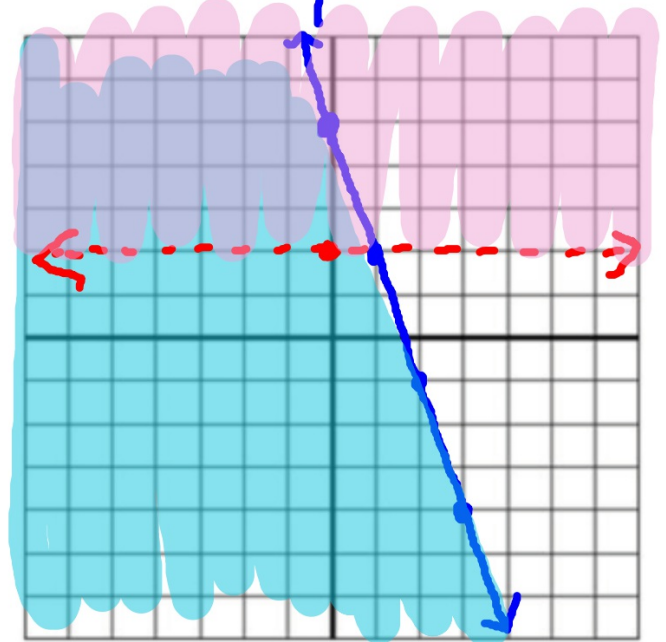


Examples:

- 3. $3x + y \leq 5$

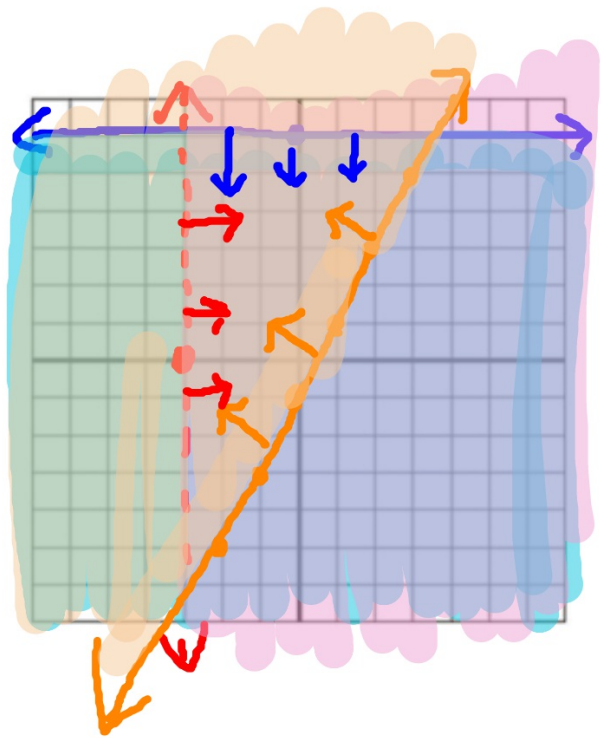
$$y > 2$$

$$y \leq -3x + 5$$
$$m = -\frac{3}{1} \quad b = 5$$



Examples:

- 4. $y \leq 6$
 $x > -3$
 $y \geq 2x - 1$
 $m = \frac{2}{1}$
 $b = -1$





Classwork

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Homework

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