

Unit 3 Linear Equations
Day 7 Graph Linear Inequalities
 (PH 7 - 6)

Name: _____

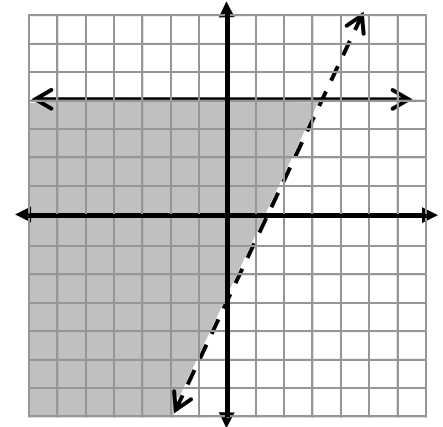
Date: _____ Hour: _____

To solve a system of inequalities you must first graph each inequality. Then shade the region where the solutions to each inequality overlap.

Example 1: Solve by graphing.

$$2x - y < 3$$

$$y \leq 4$$



$$\begin{array}{r} 2x - y < 3 \\ -2x \quad -2x \\ \hline \end{array}$$

The sign flipped because we divided by negative one!
 We will lightly shade above this line since y is greater than $2x - 3$.

$$\frac{-y < -2x + 3}{-1 \quad -1 \quad -1}$$

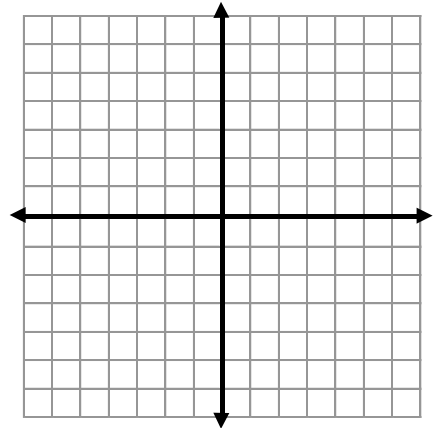
When graphing the other inequality, lightly shade below it since y is less than or equal to 4. The region shaded in the graph shows where the two solutions overlap.

$$\boxed{y > 2x - 3}$$

Example 2: Solve by graphing.

$$x + y \geq -1$$

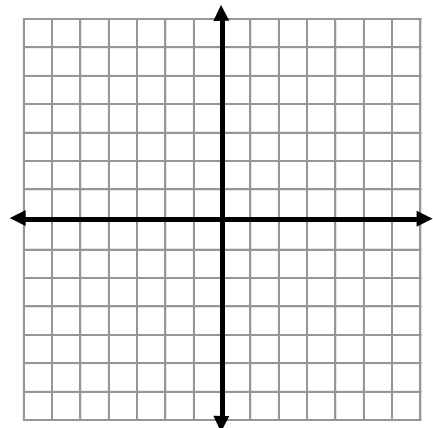
$$-2x + y < 3$$



Example 3: Solve by graphing.

$$x < 3$$

$$x - 2y \geq 2$$



Example 4: Is the point (1, 19) a solution to the system?

$$y \leq 7x - 13$$

$$y > 3x + 6$$

Homework: pages 380 – 381 #2 – 12 all

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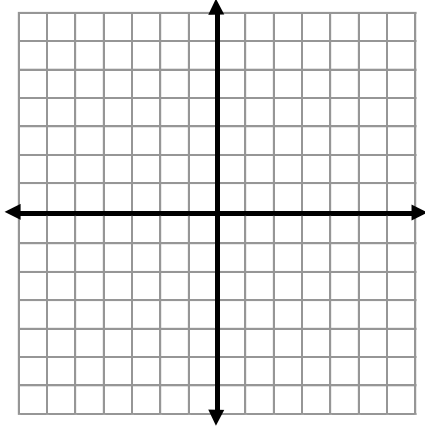
Name: _____
Date: _____ **Hour:** _____

Show all work on a separate sheet of paper. Graph the answers on the grids provided below.

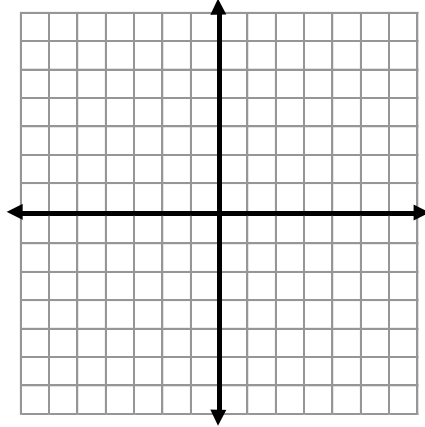
2. _____

3. _____

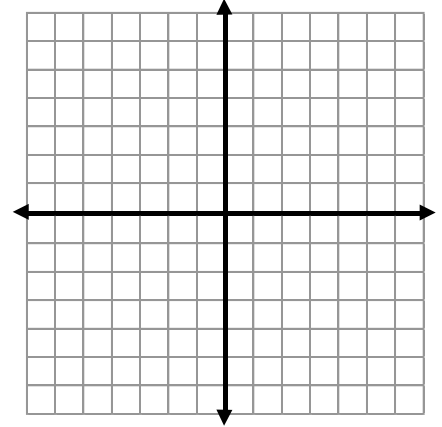
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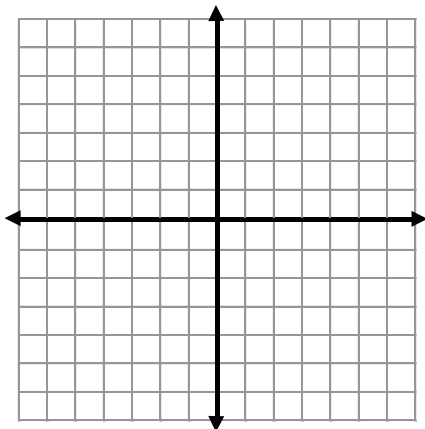
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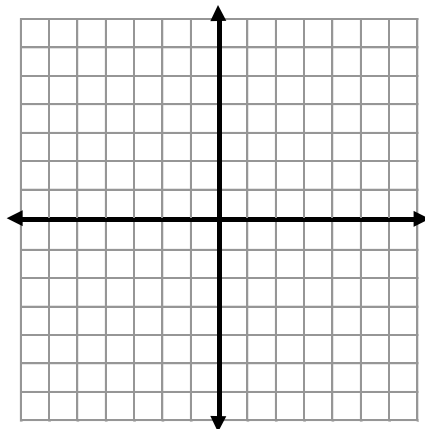
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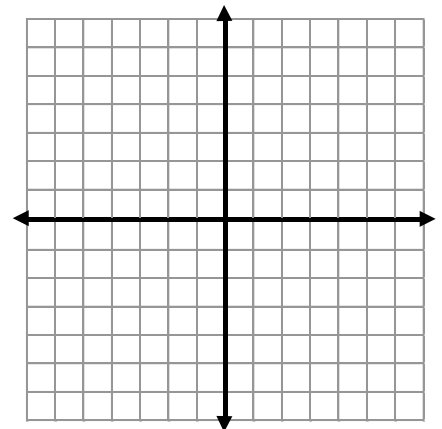
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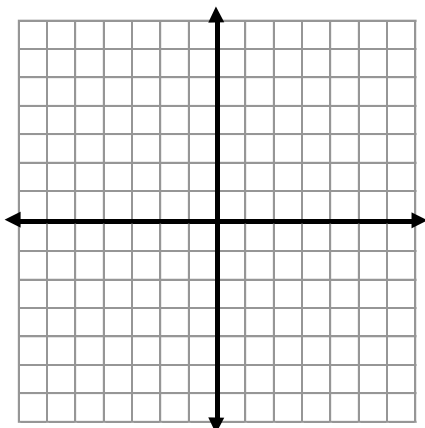
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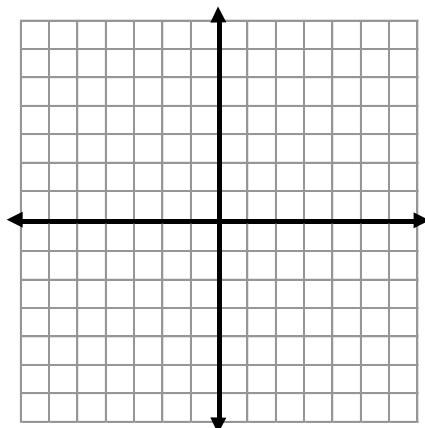
9.



10.



11.



12.

