

Notes 6.5, Part 2 Graphing Systems of Inequalities

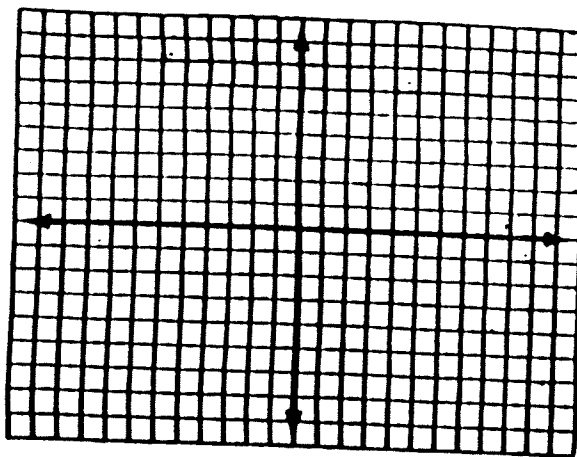
Objective: Graph the solution to a system of inequalities.

For a system of linear inequalities, the solution to the system is the _____ of the solutions for each inequality (where the regions intersect).

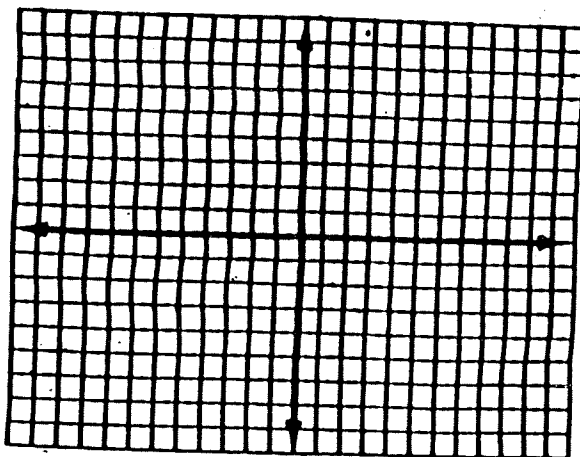
Graph the solution to each system.

Example 1

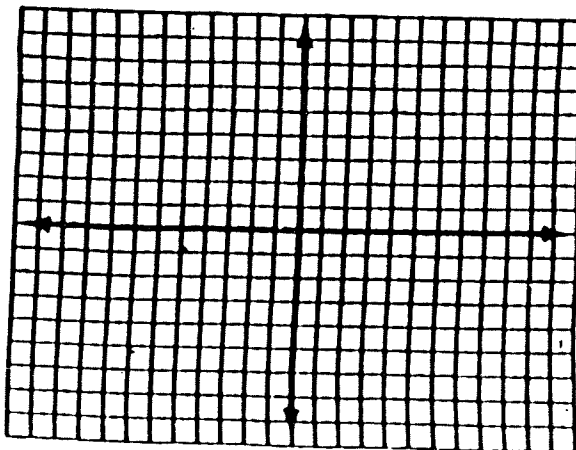
$$\begin{cases} y \leq -x + 2 & \text{(red)} \\ y > -3x + 4 & \text{(blue)} \end{cases}$$

Example 2

$$\begin{cases} y \geq x - 2 & \text{(red)} \\ y > -x + 2 & \text{(blue)} \end{cases}$$

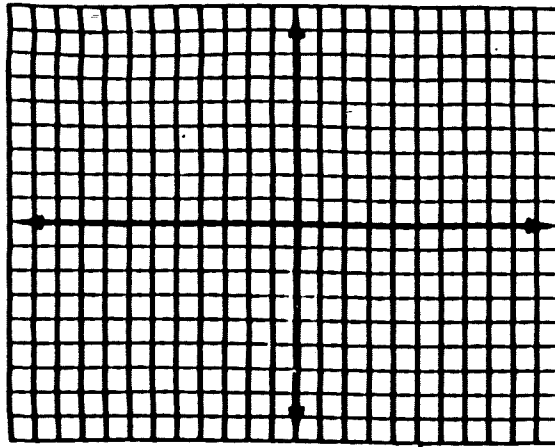
Example 3

$$\begin{cases} y \leq x - 3 & \text{(red)} \\ y < -2x + 1 & \text{(blue)} \end{cases}$$

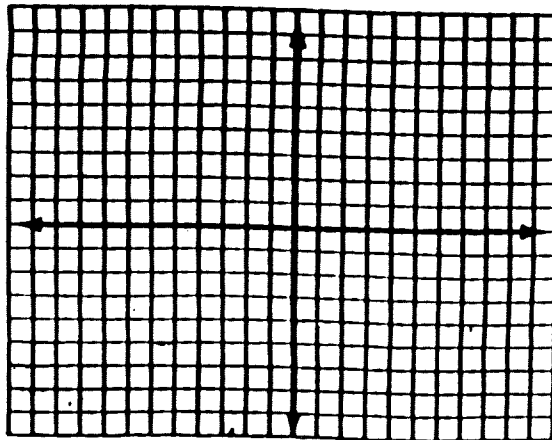


Classroom Practice

1.
$$\begin{cases} y \geq 2x - 4 & \text{(red)} \\ y > -4x + 2 & \text{(blue)} \end{cases}$$

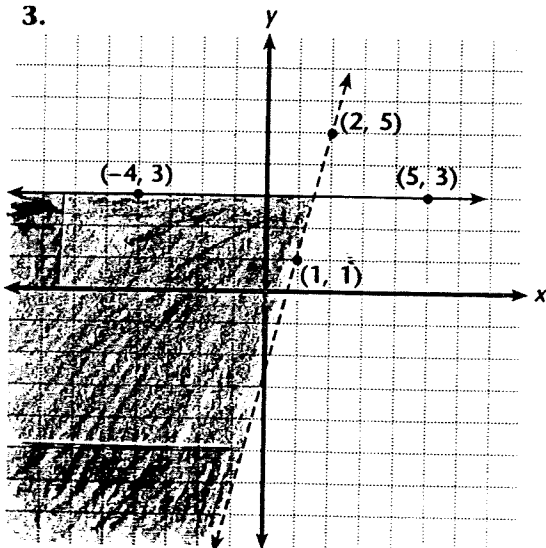


2.
$$\begin{cases} y < -\frac{1}{2}x + 2 & \text{(red)} \\ y > 3x - 2 & \text{(blue)} \end{cases}$$



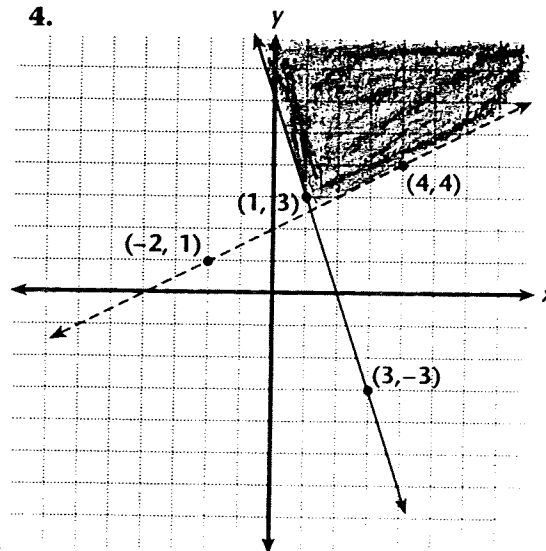
Write the system of inequalities that represents the shaded region. Use the coordinates of the given points to find the inequalities.

3.



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4.



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