

SOLVING SYSTEMS OF LINEAR INEQUALITIES

A system of linear inequalities is a set of two or more linear inequalities made up of 2 or more variables.

Solution to a system of linear inequalities:

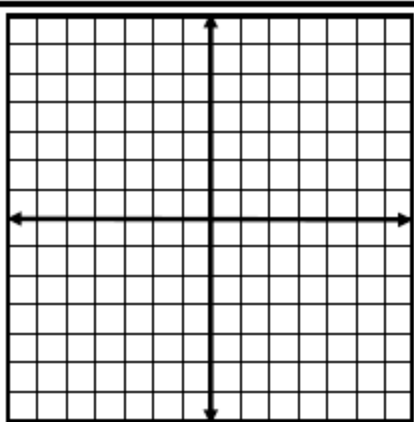
All ordered pairs that satisfy ALL of the linear inequalities in the system are solutions.

To Solve a System of Linear Inequalities:

- 1) Write each of the inequalities in slope-intercept form
 - 2) Graph each linear inequality and shade the correct side of each line
 - 3) Section where shading overlaps is the answer to the system
- **If the shading does not overlap, there is no solution!

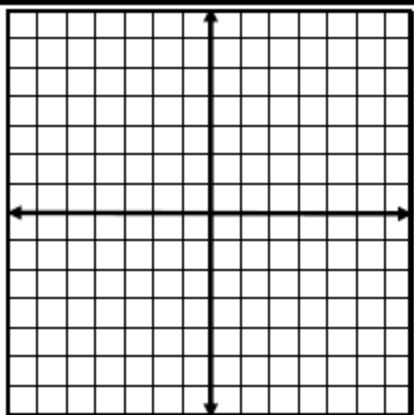
Solve the system of inequalities:

$$\begin{cases} 3x + 4y < 20 \\ y \leq 4 \\ 10x - 8y \leq 24 \end{cases}$$



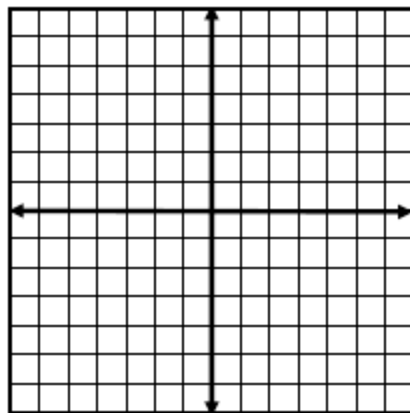
Solve the system of inequalities:

$$\begin{cases} 5x - 3y \geq -2 \\ 4x + 3y > -6 \end{cases}$$



Solve the system of inequalities:

$$\begin{cases} y \geq 2 \\ y < 4x - 1 \end{cases}$$



Solve the system of inequalities:

$$\begin{cases} 3x - 2y > 8 \\ x - 4y \leq 16 \end{cases}$$

