

Sec. 6.6 Systems of Linear Equations

Vocabulary

system of linear equations: two or more linear inequalities

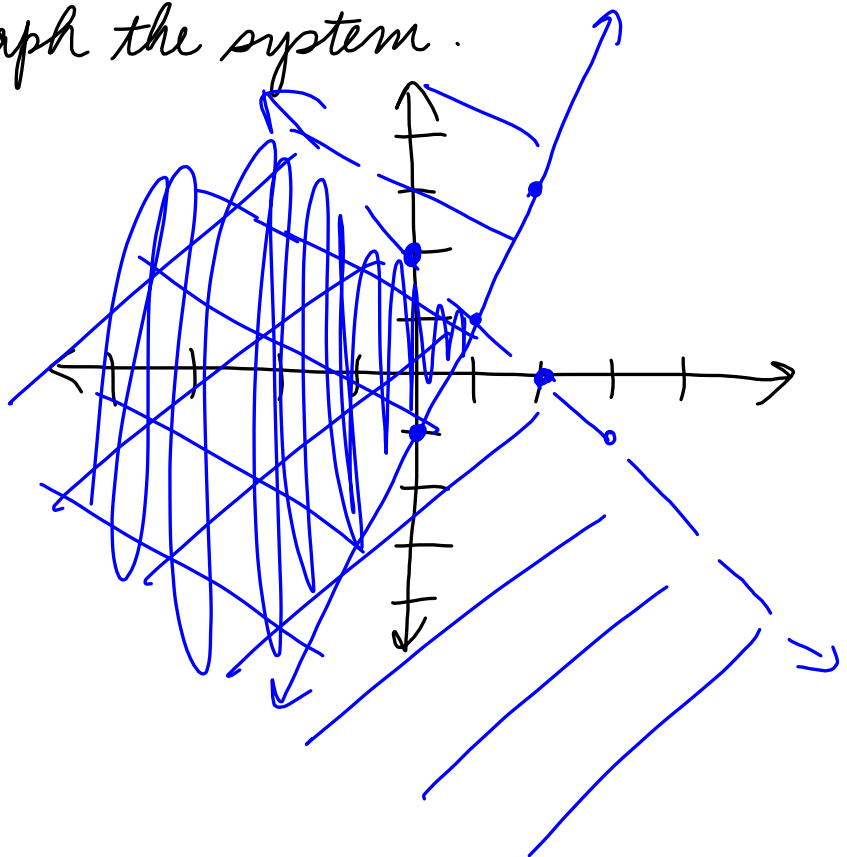
solution of a system of linear equations: an ordered pair that makes all the inequalities in a system true

Problem 1: Graph the system.

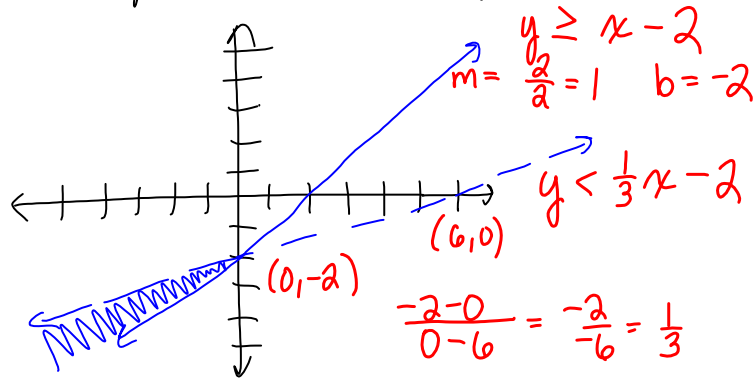
$$y \geq 2x - 1$$

$$x + y < 2$$

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



Problem 2: What system of inequalities is represented by the graph?



3. A dog walker earns \$15 per hour. She also earns \$12 per hour for babysitting. She wants to earn at least \$300 next week, but can work no more than 30 hours. What is a graph showing how many hours she can work at each job?

$$\begin{array}{r} x + y \leq 30 \text{ hrs.} \\ -x \qquad -x \\ \hline y \leq -x + 30 \end{array} \quad \begin{array}{l} x = \text{nu. hr. ds} \\ y = \text{nu. hr. bs} \end{array}$$

$$\begin{array}{r} 15x + 12y \geq 300 \\ -15x \qquad -15x \\ \hline \end{array}$$

$$\frac{12y}{12} \geq \frac{-15x + 300}{12}$$

$$\boxed{\begin{array}{l} y \geq -\frac{5}{4}x + 25 \\ y \leq -x + 30 \end{array}}$$

