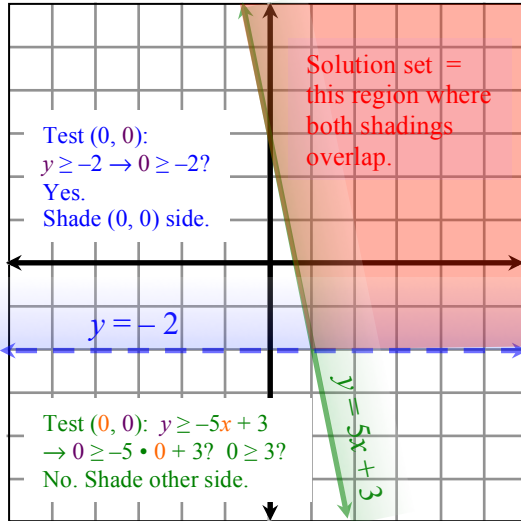


### 3.7 Systems of Linear Inequalities

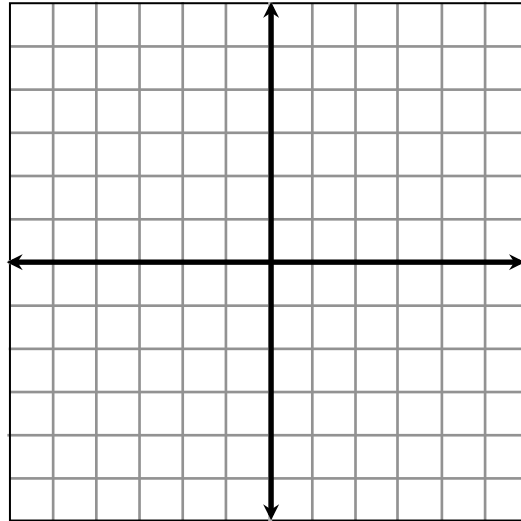
### Solutions

Sketch the solution set to each system of inequalities.

1. 
$$\begin{cases} y \geq -5x + 3 \\ y > -2 \end{cases}$$

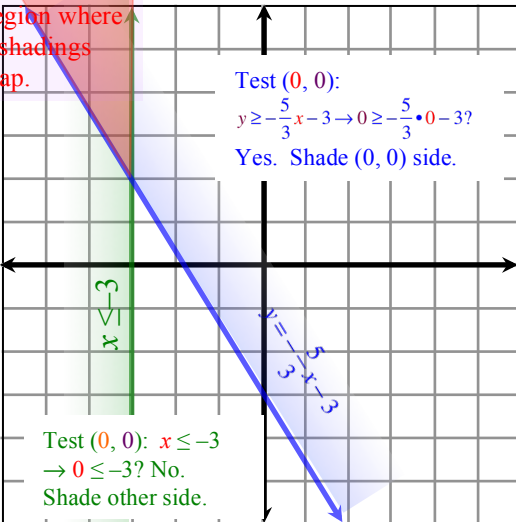


2. 
$$\begin{cases} y \leq -x + 1 \\ y < 3 \end{cases}$$

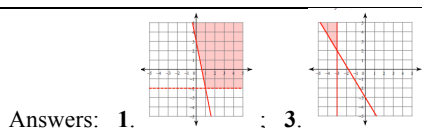
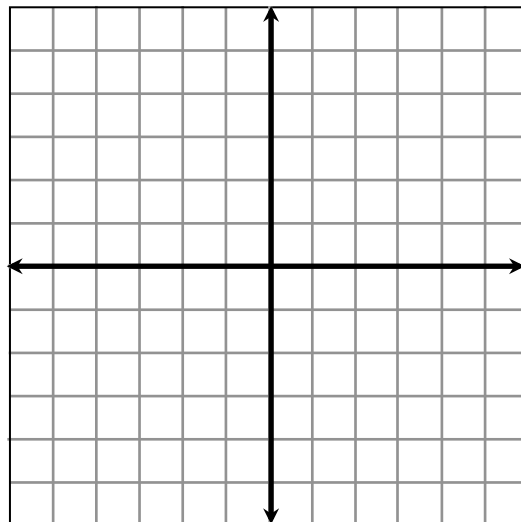


3. 
$$\begin{cases} x \leq -3 \\ y \geq -\frac{5}{3}x - 3 \end{cases}$$

Solution set = the region where both shadings overlap.



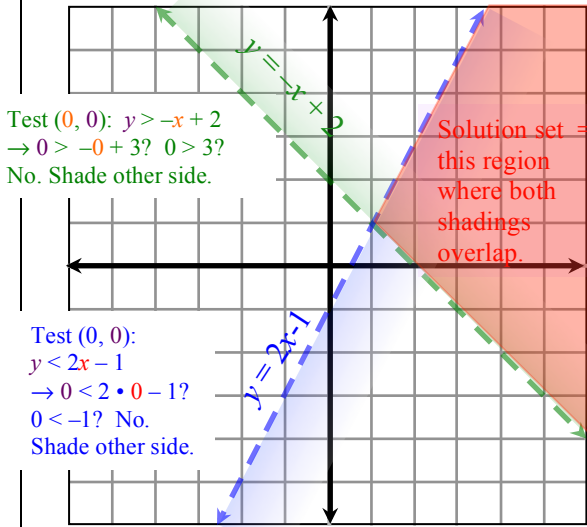
4. 
$$\begin{cases} x \geq -1 \\ y \leq \frac{1}{2}x + 2 \end{cases}$$



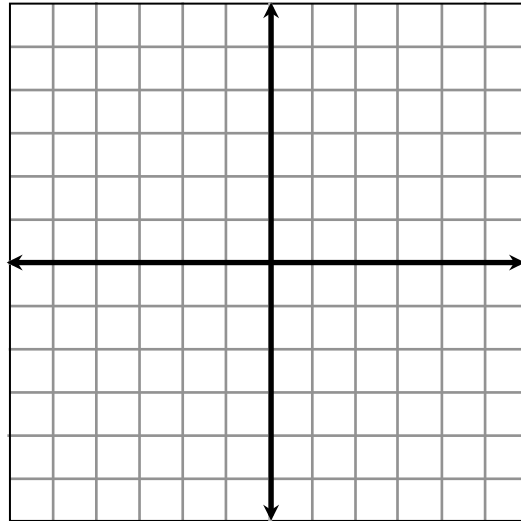
Answers: 1. ; 3.

Sketch the solution set to each system of inequalities.

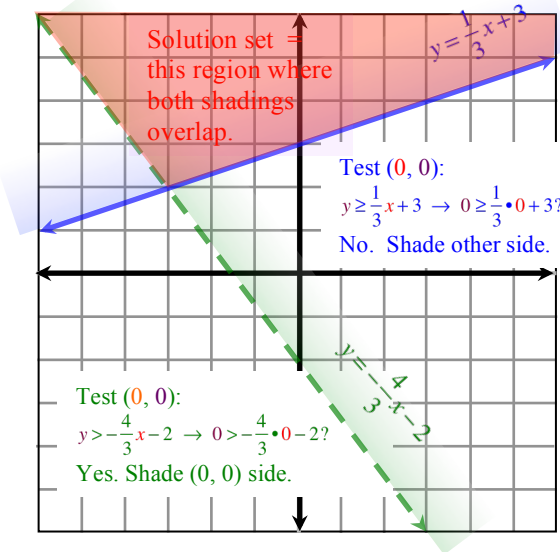
5. 
$$\begin{cases} y > -x + 2 \\ y < 2x - 1 \end{cases}$$



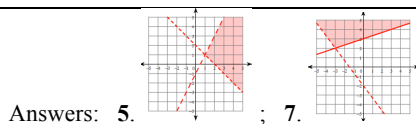
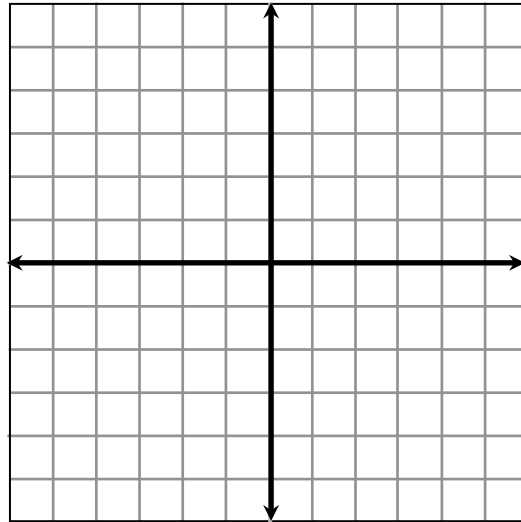
6. 
$$\begin{cases} y \geq -x + 2 \\ y \geq -4x - 1 \end{cases}$$



7. 
$$\begin{cases} y > -\frac{4}{3}x - 2 \\ y \geq \frac{1}{3}x + 3 \end{cases}$$

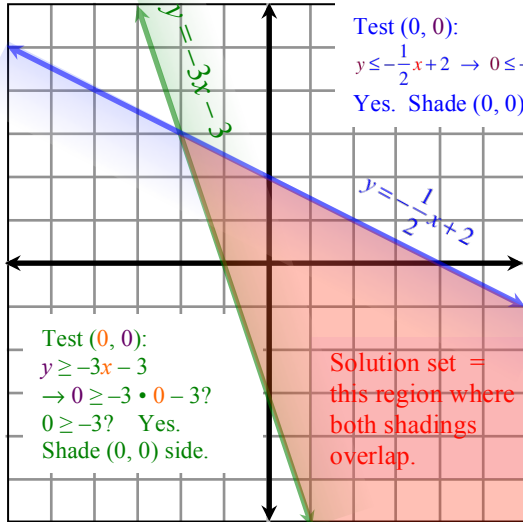


8. 
$$\begin{cases} y \geq -\frac{2}{3}x + 1 \\ y < \frac{1}{2}x - 3 \end{cases}$$

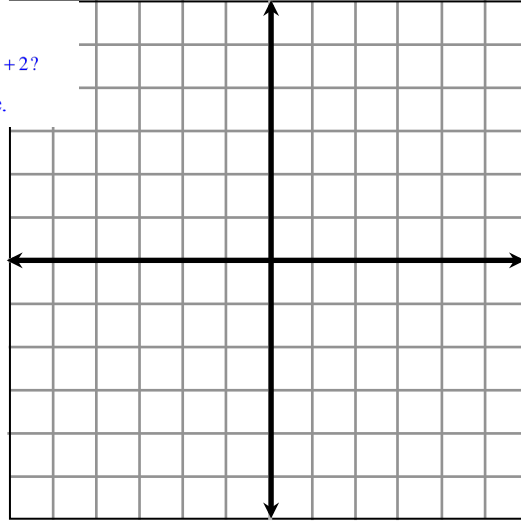


Sketch the solution set to each system of inequalities.

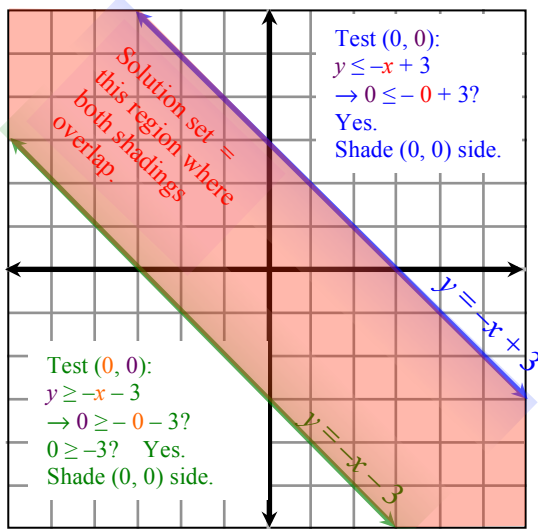
9. 
$$\begin{cases} y \geq -3x - 3 \\ y \leq -\frac{1}{2}x + 2 \end{cases}$$



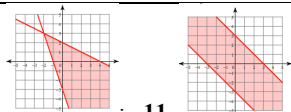
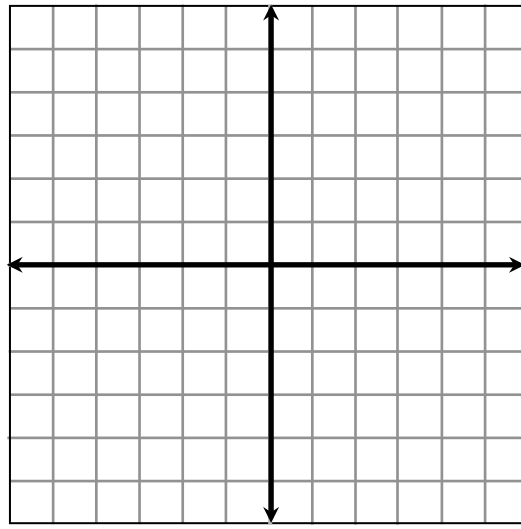
10. 
$$\begin{cases} y \leq -2x + 1 \\ y < -\frac{1}{4}x \end{cases}$$



11. 
$$\begin{cases} y \geq -x - 3 \\ y \leq -x + 3 \end{cases}$$



12. 
$$\begin{cases} y \leq 2x + 3 \\ y \geq 2x - 2 \end{cases}$$



Answers: 9. ; 11.