NAME _____

Module 10 Solving Systems of Linear Equations and Inequalities
Lesson 4 Solving Systems of Linear Inequalities by Graphing

guided notes

Lesson Objective

- Graph the solution set of a system of linear inequalities.

When graping linear inequalities of two variables:

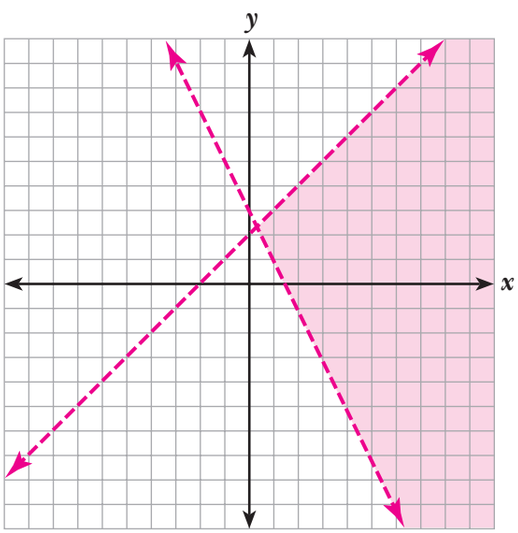
- Graph the boundary line.
- Use dashed line or solid line

$<$	$\leq$
$>$	$\geq$

- Pick a point on either side of the boundary line.
- Determine which side of the line to shade.

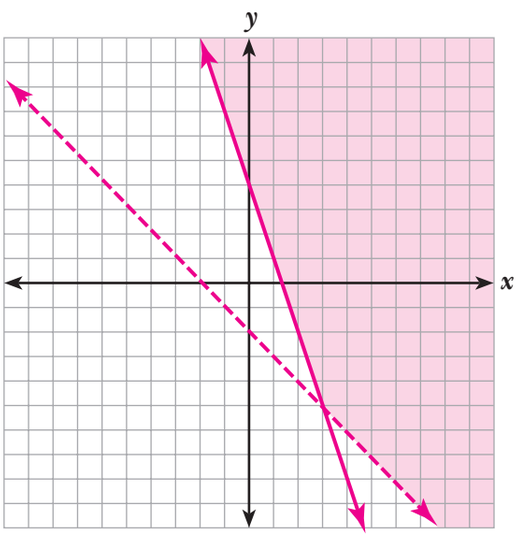
1 Graph:

$$\begin{cases} y < x + 2 \\ y > -2x + 3 \end{cases}$$



2 Graph:

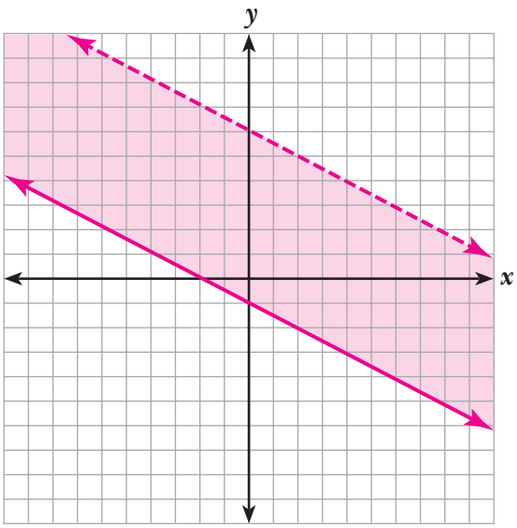
$$\begin{cases} y \geq -3x + 4 \\ y > x - 2 \end{cases}$$



If the shaded regions do not overlap, the system of linear inequalities has **no solution**.

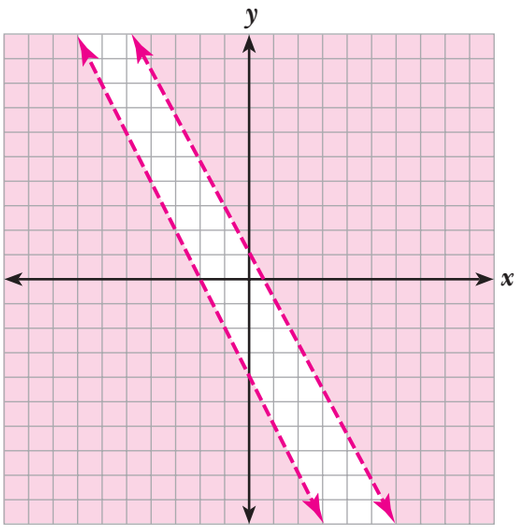
3 Graph:

$$\begin{cases} x + 2y \geq -2 \\ x + 2y < 6 \end{cases}$$



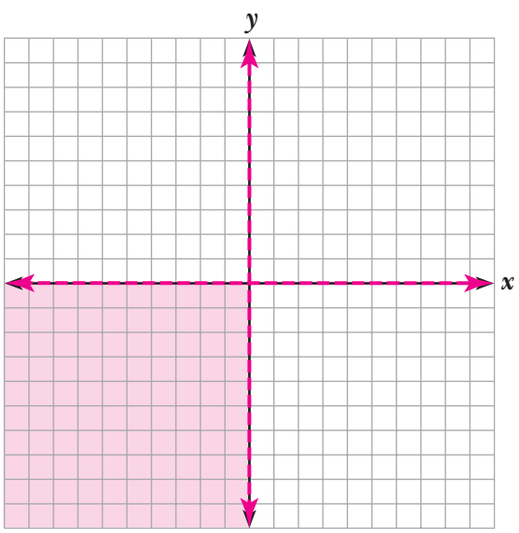
4 Graph:

$$\begin{cases} y < -2x - 4 \\ 4x + 2y > 2 \end{cases}$$



5 Graph:

$$\begin{cases} x < 0 \\ y < 0 \end{cases}$$



6 Graph:

$$\begin{cases} x \geq 1 \\ x \leq 3 \\ x \geq 2 \\ x \leq 5 \end{cases}$$