NAME

Module 7 Solving Linear Equations and Inequalities of Two Variables

Lesson 3 Graphing Linear Inequalities of Two Variables

guided notes

Lesson Objective

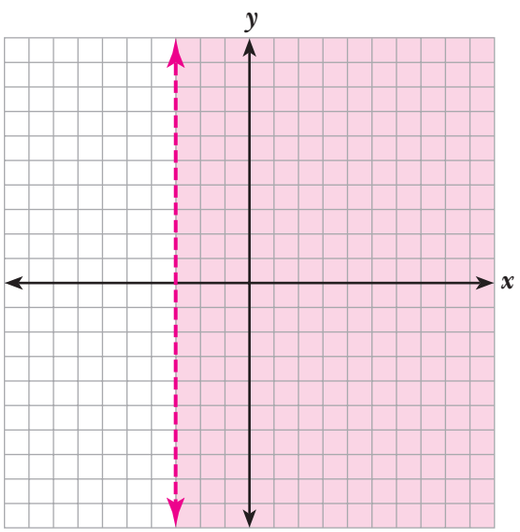
- Graph linear inequalities of two variables.

In the problem, graph on the number line, $x \leq 5$, the circle at the point 5 is **closed** because x may be equal to 5.

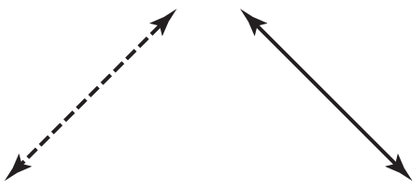
For a linear inequality with two variables, a line, called a boundary line, splits the coordinate plane into two parts.

We draw a solid boundary line if the points on the line are solutions to the inequality. Otherwise, we draw a dashed boundary line.

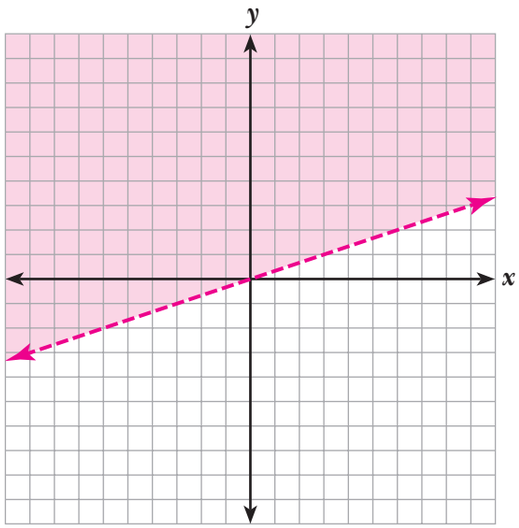
1 Graph $x > -3$ on the coordinate plane.



Dashed line	Solid line
$<$	$\leq$
$>$	$\geq$



2 Graph: $x < 3y$



To solve a linear inequality of two variables, you:

- Graph the boundary line.
- Use a dashed or solid line based on the type of inequality.
- Pick a point on either side of the boundary line.
- Determine which side of the line to shade.