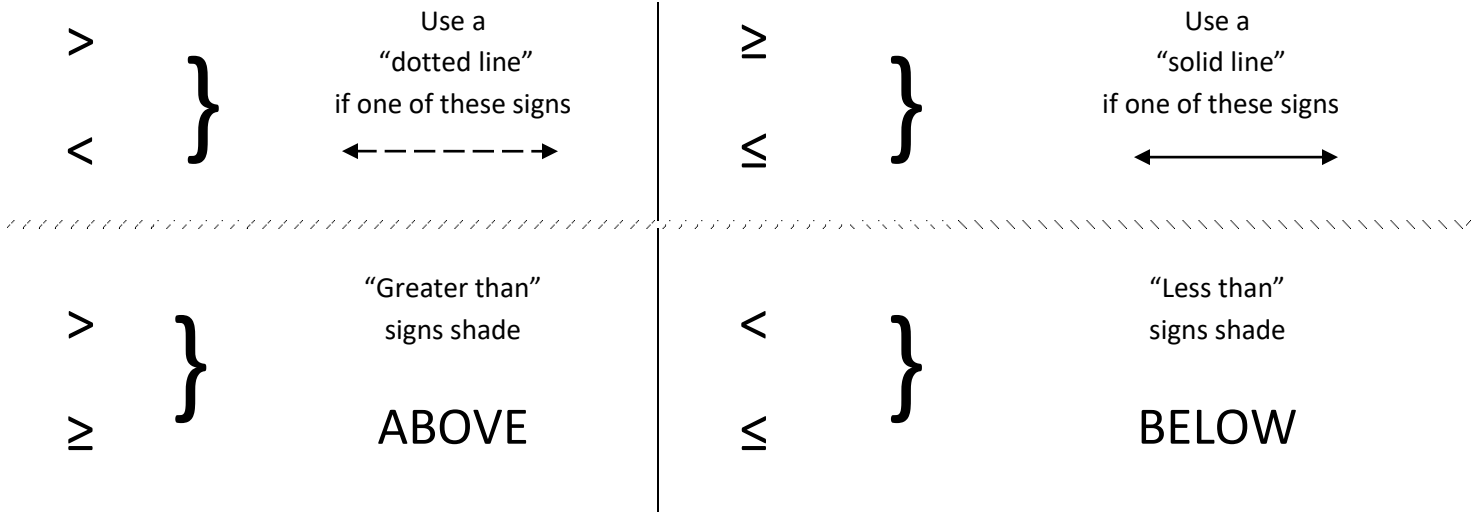# Graphing Inequalities on a Coordinate Axes System

Just like when we graph inequalities on a number line and there are many answers (shading one side of the number line), there are many points that are answers to an inequality graph. Use y = mx + b to graph, however, when graphing:

> }
Use a
"dotted line"
if one of these signs
< ← – – – – – →

≥ }
Use a
"solid line"
if one of these signs
≤ ←——————→

> }
"Greater than"
signs shade
≥ **ABOVE**

< }
"Less than"
signs shade
≤ **BELOW**

** If you are graphing a line with an undefined slope (↕), you shade LEFT/RIGHT instead of ABOVE/BELOW.
These 4 things should be listed on your paper for every problem that you graph to ensure that you don't forget important information:

m = _____	Solid or Dotted
b = _____	Above or Below

Always pick a point in your shaded area to check your answer.

Graph and Label the following inequalities:

Ex 1:	$y \leq 2x$	m = _____	Solid or Dotted	Ex 7:	$y \leq -x$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below
Ex 2:	$y > 3$	m = _____	Solid or Dotted	Ex 8:	$y > 3x + 1$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below
Ex 3:	$y > 4x$	m = _____	Solid or Dotted	Ex 9:	$-y < -x + 4$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below
Ex 4:	$y - 2x \geq 2$	m = _____	Solid or Dotted	Ex 10:	$-y \geq x + 1$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below
Ex 5:	$x > 4$	m = _____	Solid or Dotted	Ex 11:	$x - y < 3$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below
Ex 6:	$y < x - 2$	m = _____	Solid or Dotted	Ex 12:	$2x - y \leq 4$	m = _____	Solid or Dotted
		b = _____	Above or Below			b = _____	Above or Below

Graphing Inequalities on a Coordinate Axes System

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