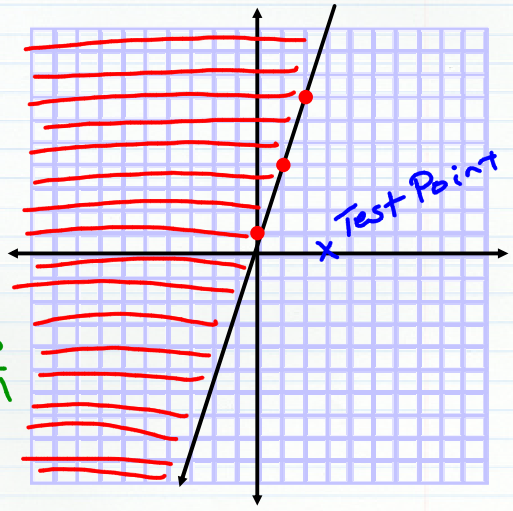
Graphing Linear Inequalities

1. Graph the boundary line. Use dashed line for < and >, and solid line for ≤ and ≥.
2. Test a point *not* on the boundary line to determine where to shade. (Use (0 , 0) for the test point unless it's on the boundary line.)

Example 1

Inequality

$y \geq 3x + 1$



Boundary Line

$y = 3x + 1$ solid

$b = 1$ $m = 3 = \frac{3}{1} = \frac{up\ 3}{rt.\ 1}$

Test: (3, 0)

$y \geq 3x + 1$

$0 \geq 3(3) + 1$

$0 \geq 10$ True? No. Shade other side (not containing test point).

Example 2

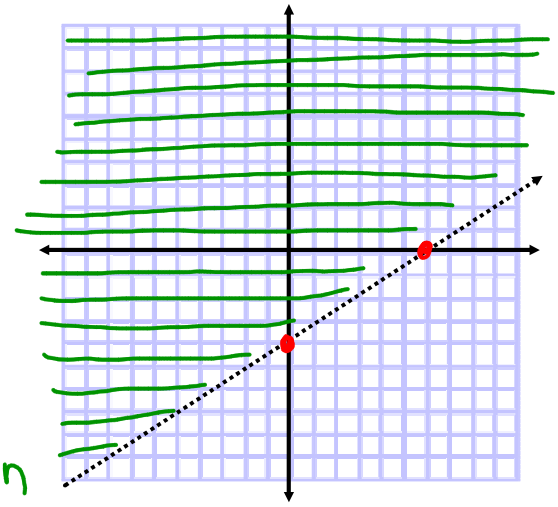
Inequality

$2x - 3y < 12$

Boundary Line

$2x - 3y = 12$ dashed

x	y
0	-4
6	0



Test (0, 0)

$2(0) - 3(0) < 12$

$0 < 12$?

True. Shade region that contains (0, 0)