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Graphing Linear Inequalities

1. Graph the boundary line. Use dashed line for $<$ and $>$, and solid line for $\leq$ and $\geq$.
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: $y \geq 3x + 1$

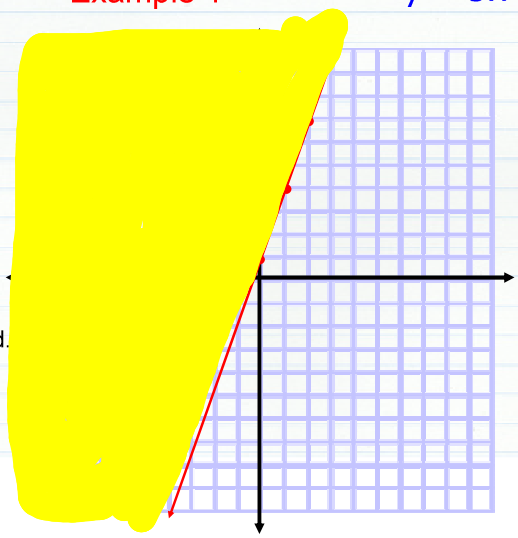
Boundary Line: $y = 3x + 1$ solid

Test point (0,0)

$0 \stackrel{?}{\geq} 3(0) + 1$

$0 \stackrel{?}{\geq} 1$

No, so the region containing (0 , 0) should NOT be shaded. Shade the other side.



Example 2

Inequality: $2x - 3y < 12$

$0 - 0 \stackrel{?}{<} 12$

$0 < 12$

Yes.

Shade the region containing (0,0).

Boundary Line: $2x - 3y = 12$ dashed

x	y
0	-4
6	0