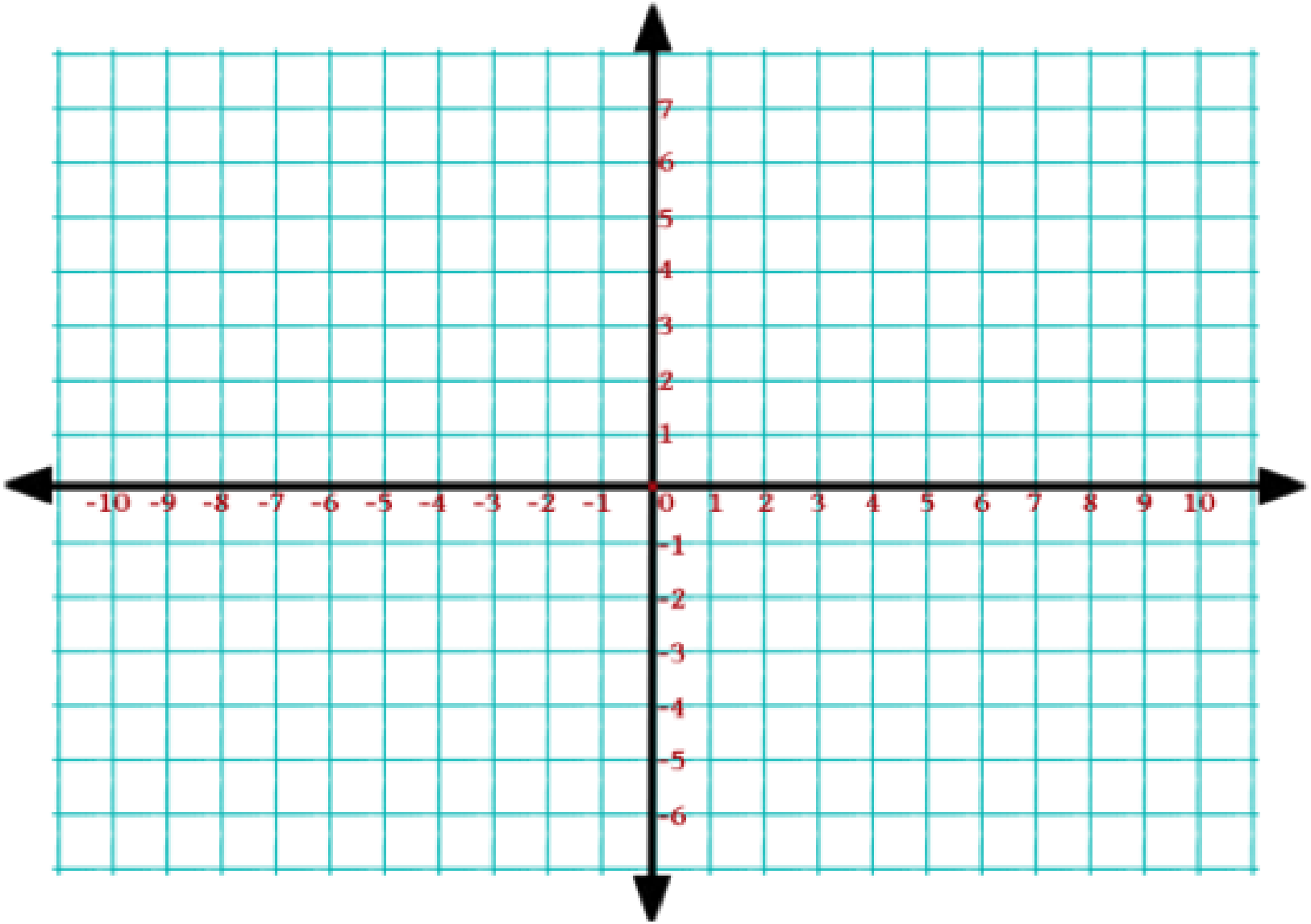
Bell Ringer: Graph $-x - 3y = 6$



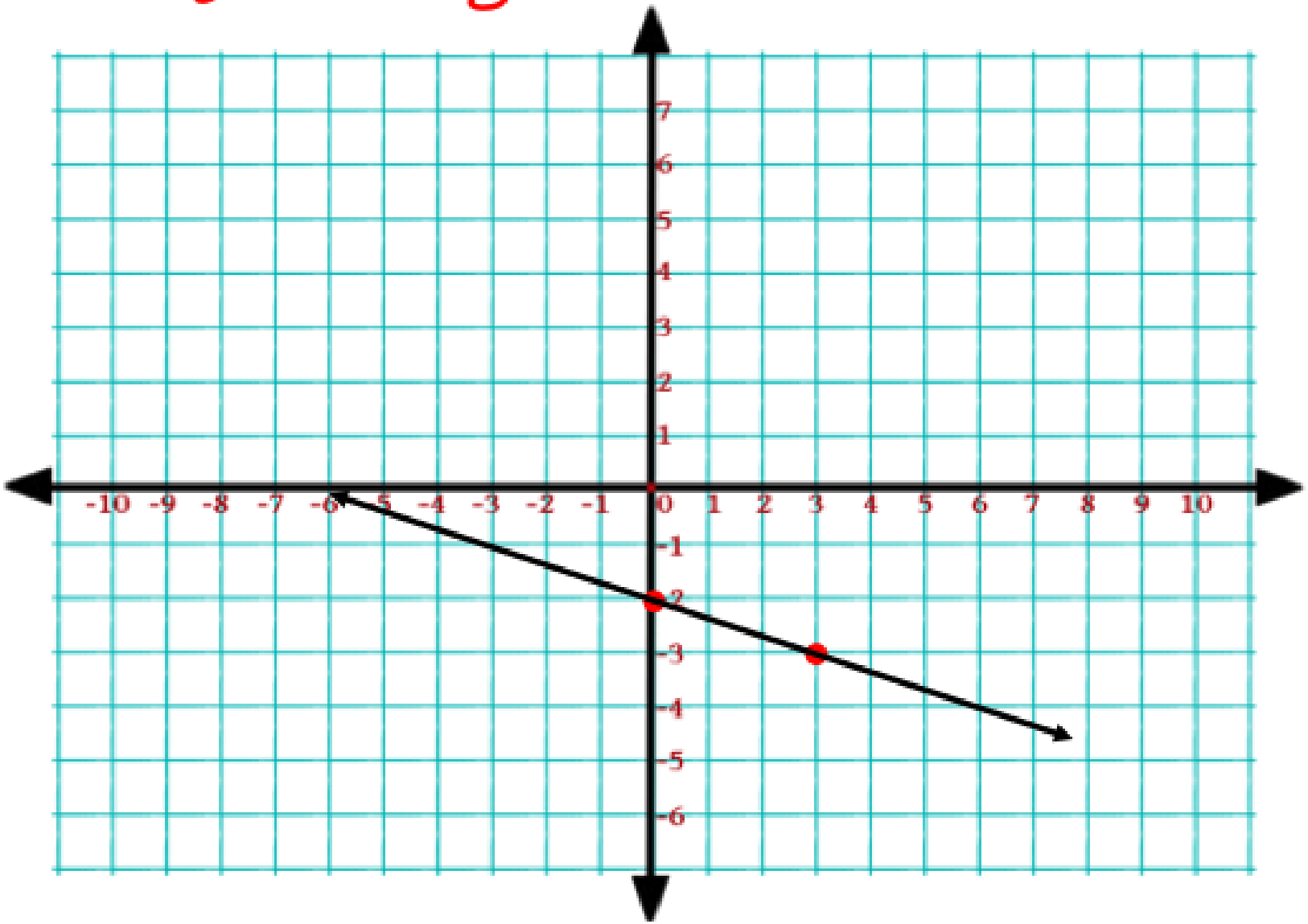
Bell Ringer: Graph $-x - 3y = 6$

$+x \quad +x$

$\frac{-3y}{-3} = \frac{1x + 6}{-3}$

$y = -\frac{1}{3}x + -2$

x	y
-6	0
0	-2



Graphing Linear Inequalites with Two Variables

Solutions are a half-plane of a coordinate plane. The solution may include the line ($\geq$ and $\leq$) or may not ($>$ and $<$)

Steps to Graph

1) Graph the corresponding equation using slope-intercept form.
   - use a dashed line if $>$ or $<$
   - use a solid line if $\geq$ or $\leq$
2) Pick a test point, normally (0 , 0) and plug into the inequality.
3) If the test point is a solution, shade the half-plane that it is in.
If the test point is not a solution, shade the other half-plane.

Note: Step 1 divides the coordinate plane into two half-planes.

Sketch a graph of the solution of the linear inequality.

1. $y > \frac{3}{2}x + 2$

① $y = \frac{3}{2}x + 2$

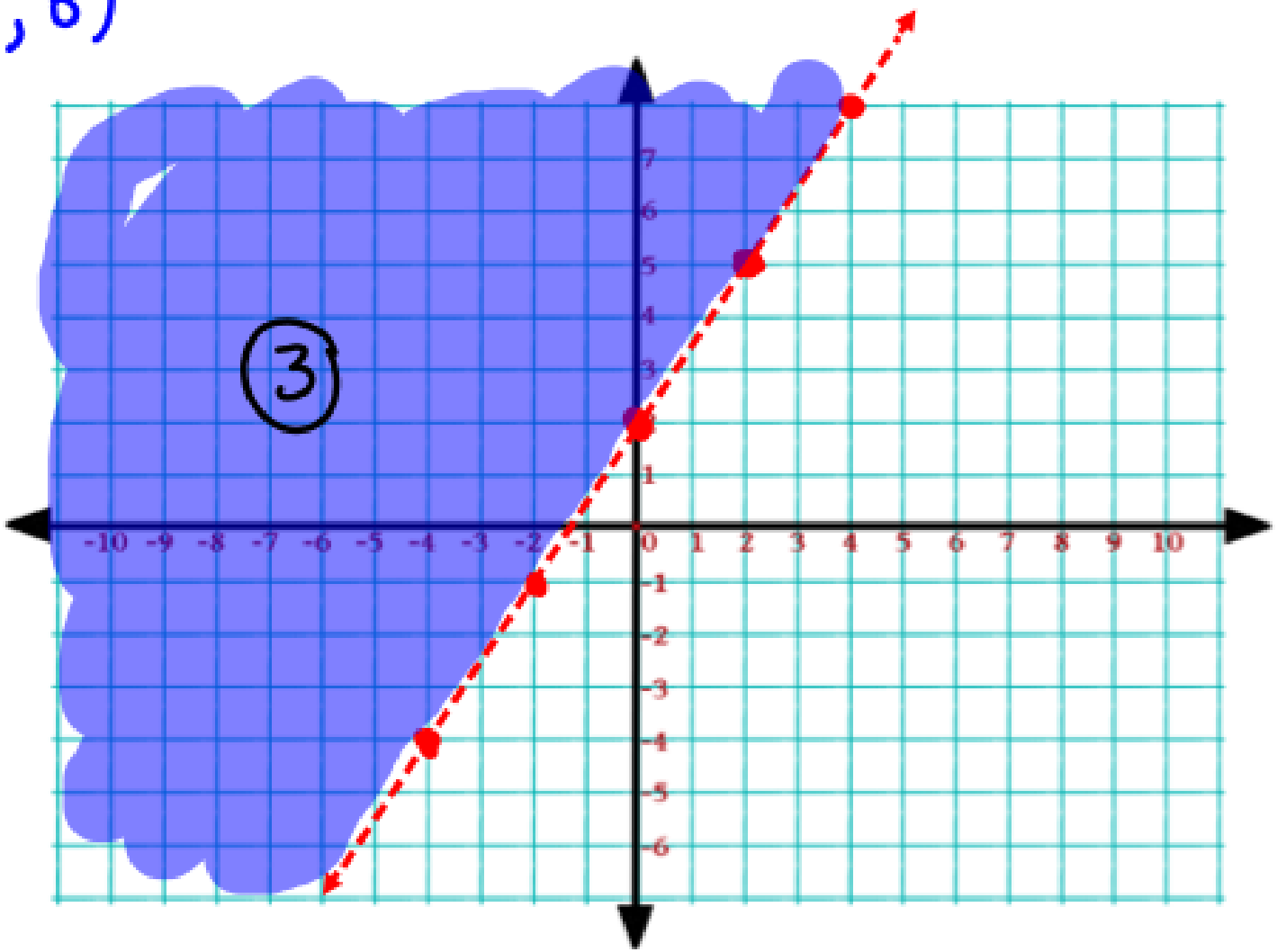
dashed line >

② Test Point (0, 0)

$0 > \frac{3}{2}(0) + 2$

$0 > 2$

False



Sketch a graph of the solution of the linear inequality.

2. $x - 2y \geq 8$

① $x - 2y = 8$

$-2y = -x + 8$

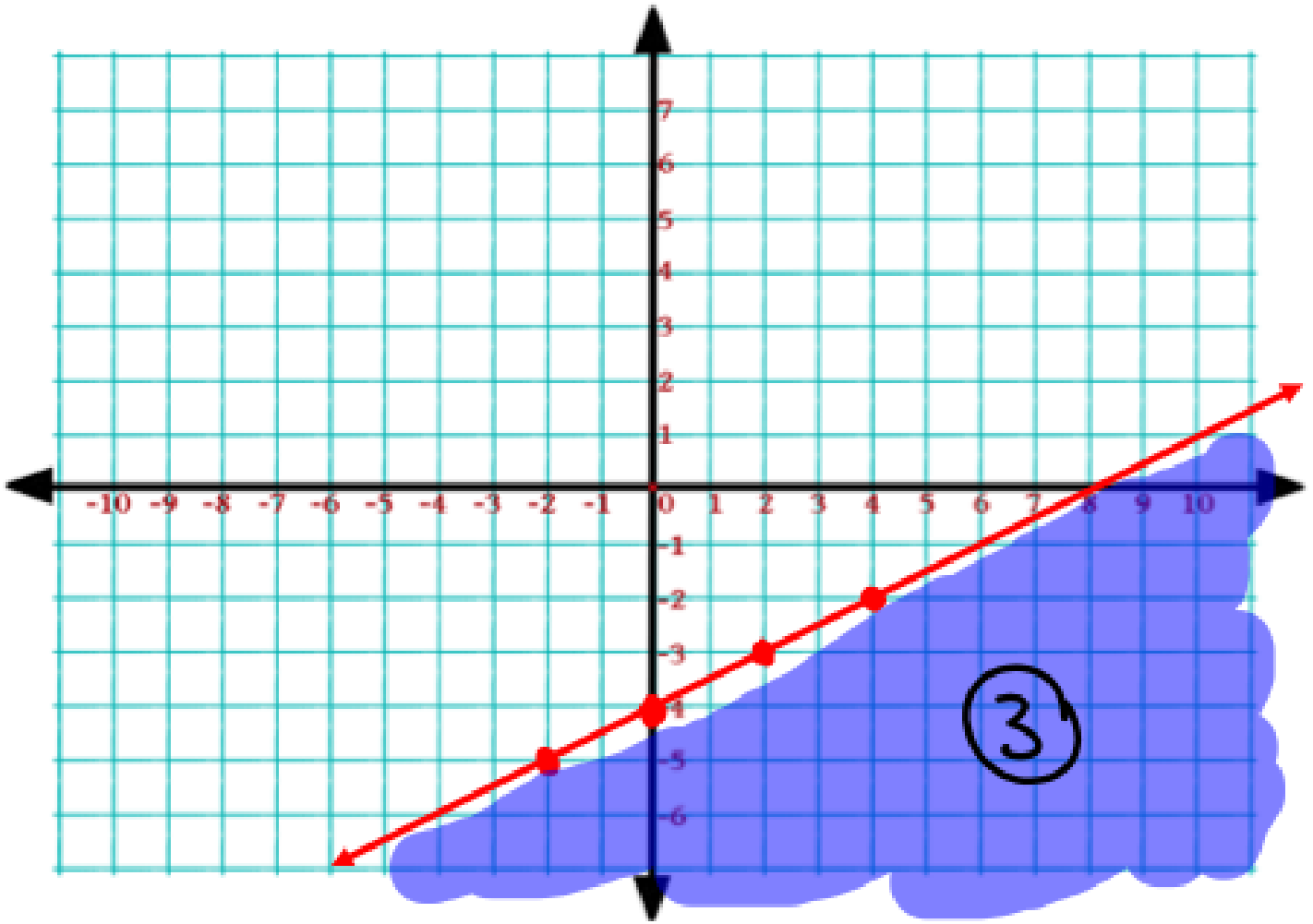
$y = \frac{1}{2}x + -4$

②

Test Point

(0,0)

$0 - 2(0) \geq 8$

$0 \geq 8$

False