

Algebra 1 6.6

Solve systems of linear inequalities by graphing* Ch. 5.6
Apply systems of linear inequalities

linear inequality* system

boundary –
open $< >$ – – –
closed $\leq \geq$ —

- * $y = k$ (horizontal)
- * $x = k$ (vertical)

$$y = 3 \quad x = 5$$

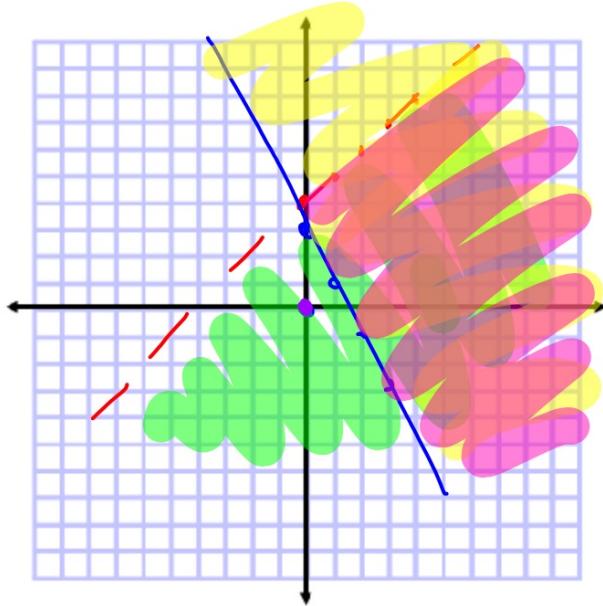
$$0 < 0 + 4$$

$$y < x + 4$$

$$y = 1x + 4$$

$$\boxed{0 \geq 0 + 3}$$
$$y \geq -2x + 3$$

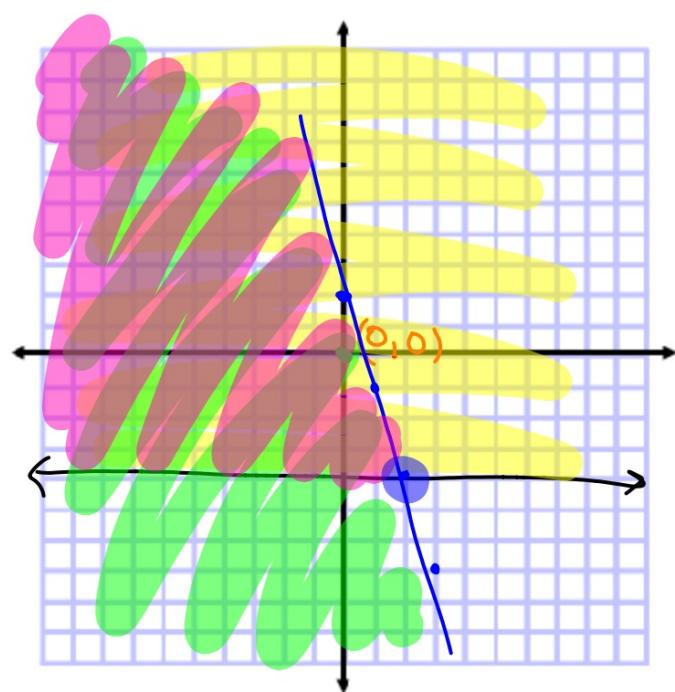
$$y = -\frac{2}{3}x + 3$$



Whiteboards
1C $y \geq -4$ $0 \geq -4$
 $3x + y \leq 2$
 $0 + 0 \leq 2$

$$y = -4$$

$$\begin{array}{r} 3x + y = 2 \\ -3x \quad -3x \\ \hline y = -3x + 2 \end{array}$$

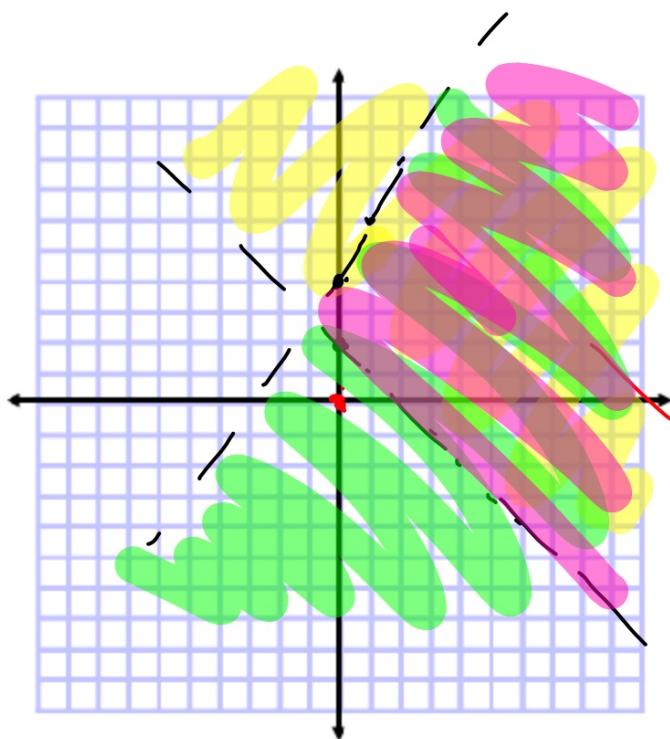


$$0 > 2$$

10. $x + y > 2$
 $-4x + 2y < 8$

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

$$y = 2x + 4$$



Where is it shaded by both?

Example 2 No Solution

Solve the system of inequalities by graphing.

$$3x - y \geq 2$$

$$3x - y < -5$$

$$0 - 0 < -5$$

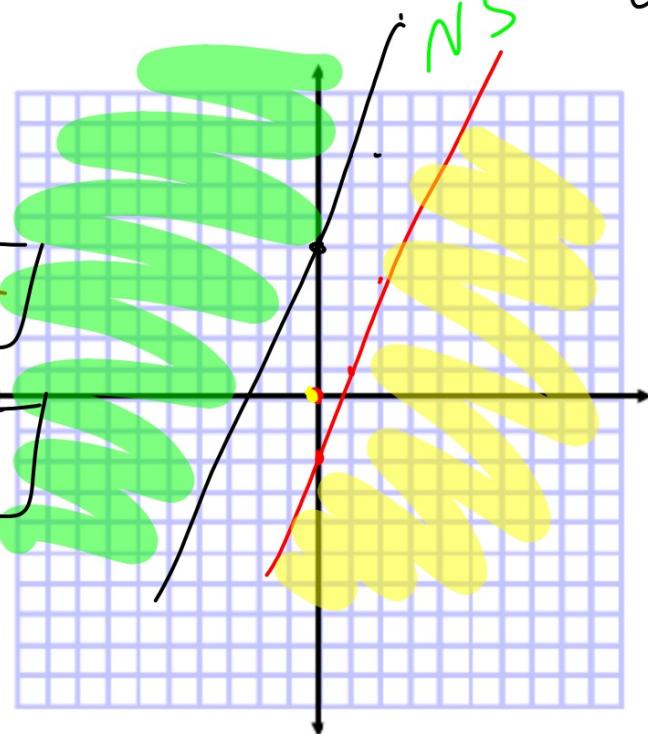
$$0 < -5$$

$$3x - y = 2$$

$$y = 3x - 2$$

$$3x - y = -5$$

$$y = 3x + 5$$



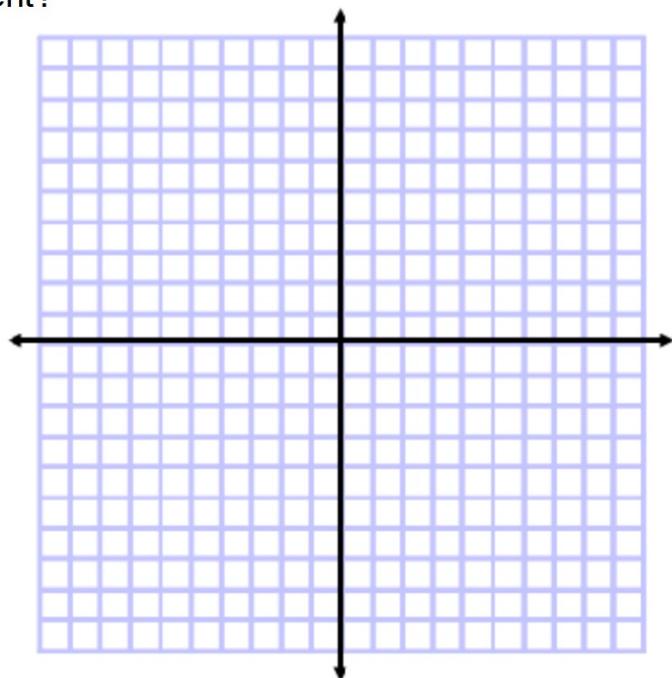
use = for boundary
Orig for test point

How is this problem different?

Guided Practice

2A. $y > 3$

$y < 1$



2B. $x + 6y \leq 2$
 $y \geq -\frac{1}{6}x + 7$

