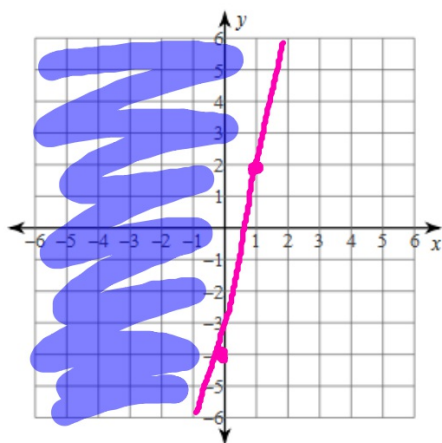


Content and Language Objective: SWBAT graph and solve linear inequalities in standard form

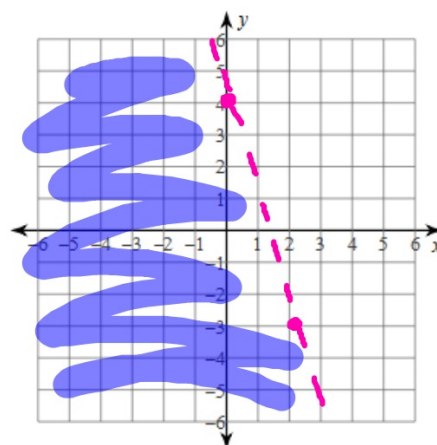
Lesson 27: Linear Inequalities in Standard Form Warm - Up

Sketch the graph of each linear inequality.

1) $y \geq 6x - 4$



2) $y < -\frac{7}{2}x + 4$



Content and Language Objective: SWBAT graph and solve linear inequalities in standard form

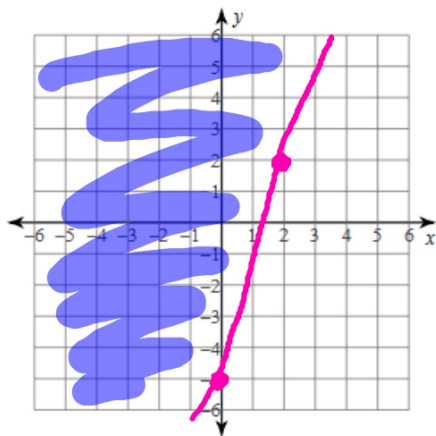
Linear Inequalities in Standard Form

What do we have to do when our equations are in standard form?

get y by itself

Sketch the graph of each linear inequality.

3) $7x - 2y \leq 10$



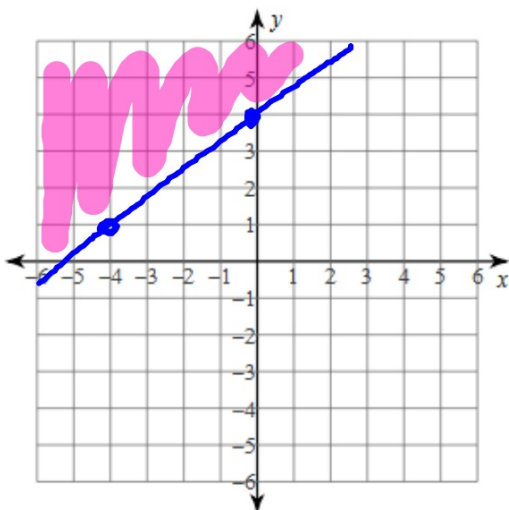
One special rule we have to follow when we are changing from standard form is that when we are dividing by a negative number the direction of the inequality flips.

$$\begin{array}{r} 7x - 2y \leq 10 \\ -7x \quad -7x \\ \hline -2y \leq 10 - 7x \\ \underline{-2} \quad \underline{-2} \quad \underline{-2} \\ y \geq -5 + \frac{7}{2}x \end{array}$$

Content and Language Objective: SWBAT graph and solve linear inequalities in standard form

Let's try this one together

4) $3x - 4y \leq -16$



$$\begin{array}{r} 3x - 4y \leq -16 \\ -3x \quad \quad -3x \\ \hline -4y \leq -16 - 3x \\ \hline -4 \quad \quad -4 \quad \quad -4 \\ y \geq 4 + \frac{3}{4}x \end{array}$$

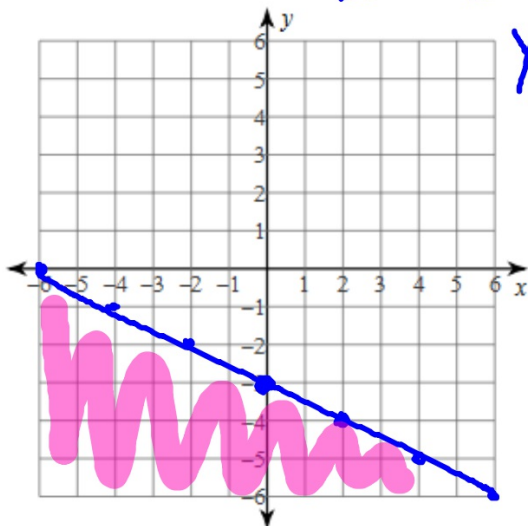
Content and Language Objective: SWBAT graph and solve linear inequalities in standard form

You try!!

5) $x + 2y \leq -6$

$$\begin{array}{r} x + 2y \leq -6 \\ -x \quad -x \\ \hline 2y \leq -6 - x \\ \frac{2y}{2} \leq \frac{-6-x}{2} \end{array}$$

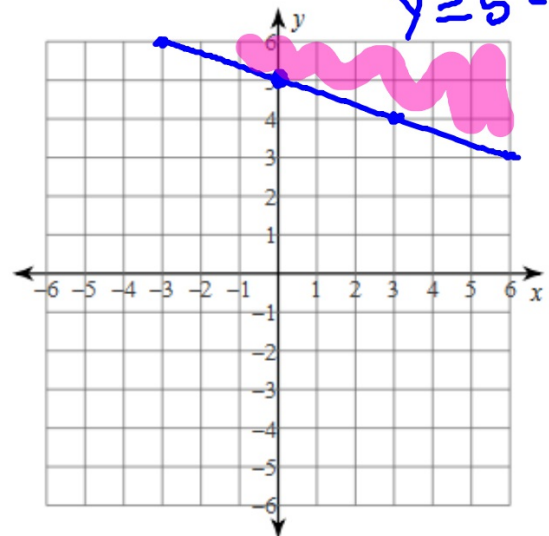
$$y \leq -3 - \frac{1}{2}x$$



6) $x + 3y \geq 15$

$$\begin{array}{r} x + 3y \geq 15 \\ -x \quad -x \\ \hline 3y \geq 15 - x \\ \frac{3y}{3} \geq \frac{15-x}{3} \end{array}$$

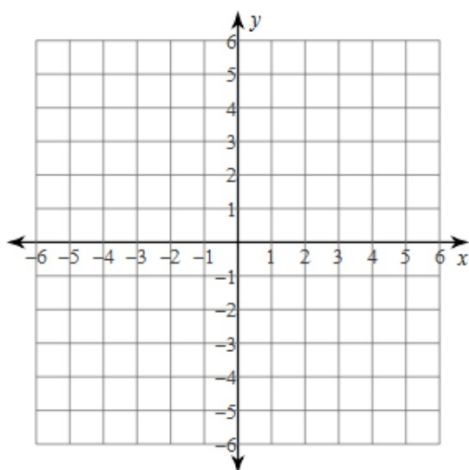
$$y \geq 5 - \frac{1}{3}x$$



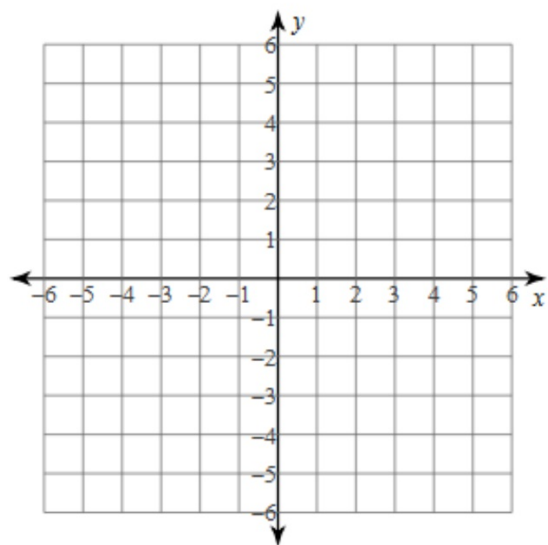
Practice

Sketch the graph of each linear inequality.

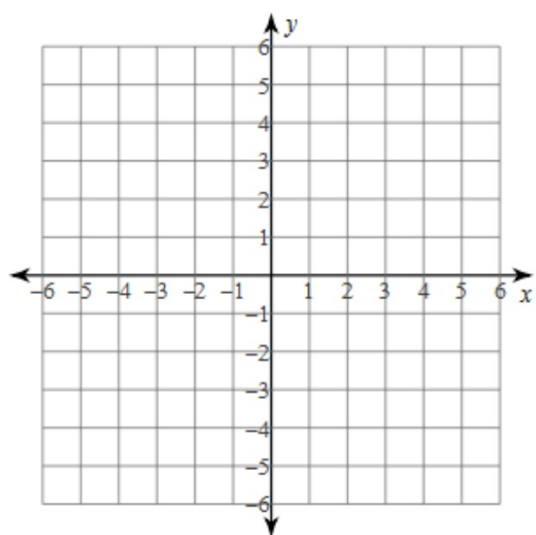
1) $y < -\frac{8}{5}x + 5$



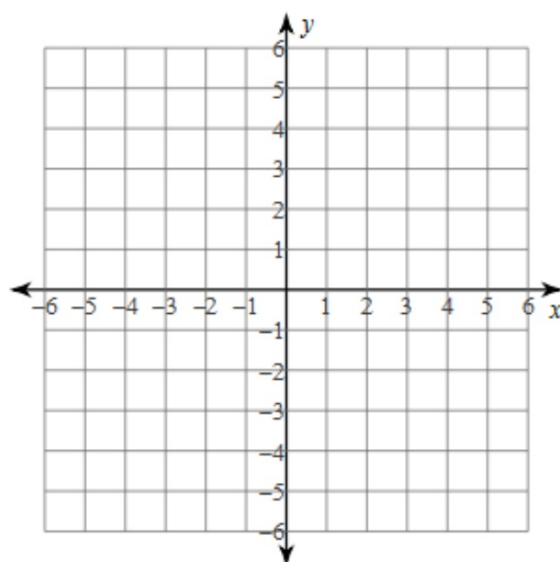
2) $y \geq -7x - 2$



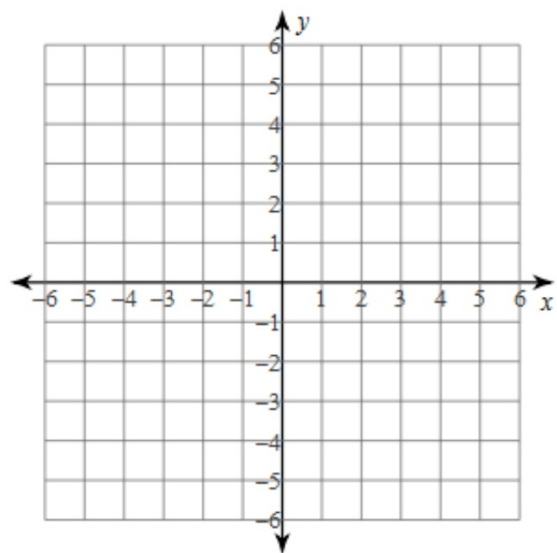
3) $y > 3x - 1$



4) $x + y \leq -2$



5) $5x + y < -4$



6) $9x - 2y \leq -8$

