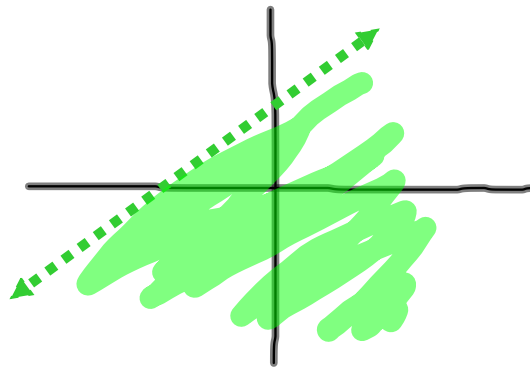


Chapter 1 Review Problem 8a.

Graph the inequality $2y - x < 6$



Solve for y:

$$2y = x + 6$$

$$y = \frac{(x+6)}{2}$$

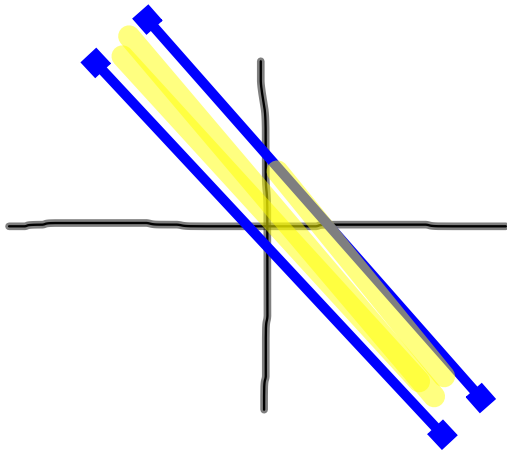
Graph the line; $<$ means it will be dotted.

Check a point, for example, does $(0, 0)$ work in the original equation?
 $0 - 0 < 6$ Yes:

Shade accordingly.

Chapter 1 Review Problem 8b.

Graph the inequality $-2 \leq x + 2y \leq 4$



Solve for y (split these up):

$$\begin{aligned} -2 &= x + 2y \text{ and } x + 2y = 4 \\ -2 - x &= 2y \text{ and } 2y = -x + 4 \\ y &= \frac{-x-2}{2} \text{ and } y = \frac{-x+4}{2} \end{aligned}$$

Graph the lines; \leq means it will be solid in both.

Check a point, for example, does (0, 0) work in the original equation?

$$-2 \leq 0 + 0 \leq 4 \text{ Yes}$$

Shade accordingly.

Chapter 1 Review Problem 9 A

Write an inequality that describes each graph.

If the line is $y = -2x - 4$, then check your point. For example, check the point $(0, 0)$ with a sign: Is $0 \leq 0 - 4$ or is $0 \geq 0 - 4$? Line is solid so we choose or equal to.

It is greater than, so your inequality is $y \geq -2x - 4$

9B Lines are $y = 5$ and $y = -2$ and shading is between, so set up an order like on a number line:

$$-2 \quad y \quad 5 \qquad 5 \quad y \quad -2$$

The -2 line is solid and the 5 line is dotted.

$$\text{so } -2 \leq y < 5 \qquad \text{or} \qquad 5 > y \geq -2$$