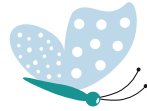


# SOLVING ONE-STEP INEQUALITIES

You can solve an inequality by using inverse operations to isolate the variable. Take a closer look at the examples below.

$$\begin{array}{r} n + 3 \leq 9 \\ -3 \quad -3 \\ \hline n \leq 6 \end{array}$$

To get  $n$  by itself, subtract 3 from both sides of the inequality.



When you graph this solution set, any value less than or equal to 6 makes the inequality true.



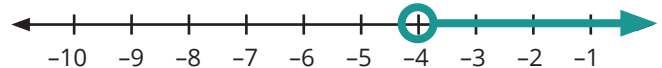
$$\begin{array}{r} -2m < 8 \\ -2 \quad -2 \\ \hline m > -4 \end{array}$$

To get  $m$  by itself, divide both sides by  $-2$ .

$$m > -4$$

**Be careful:** If you multiply or divide by a negative number, you must flip the inequality sign!

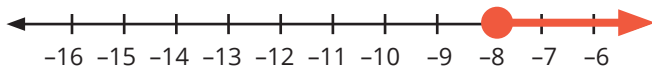
When you graph this solution set, any value greater than  $-4$  makes the inequality true.



Solve each inequality. Then graph the solution set on the number line.

$$x - 6 \geq -14$$

$$x \geq -8$$



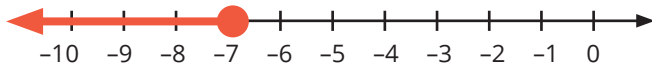
$$\frac{k}{-4} > -5$$

$$k < 20$$



$$3p \leq -21$$

$$p \leq -7$$



$$-8j < 16$$

$$j > -2$$



$$y - 3.25 > 6.75$$

$$y > 10$$



$$z + \frac{1}{2} \geq -\frac{1}{2}$$

$$z \geq -1$$

