

# Lesson 3.5 Using Variables to Express Inequalities

An **inequality** is a mathematical sentence that states that two expressions are not equal.

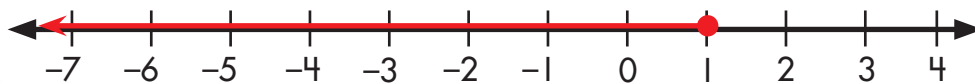
$$2 \times 5 > 6$$

Inequalities can be solved the same way as you solve equations.

$$-4 \times x \geq -4$$

$$-4 \times x \div (-4) \geq -4 \div (-4)$$

$$x \leq 1$$

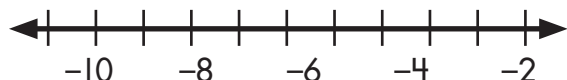


When you multiply or divide by a negative number, you must flip the inequality sign.

Solve each inequality and graph its solution.

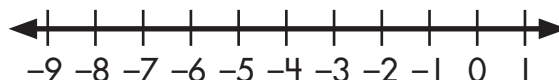
**a**

1.  $-4 \times m > 20$

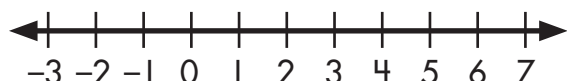


**b**

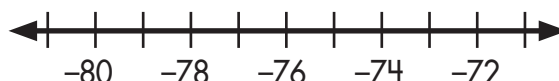
$$\frac{v}{5} \leq -\frac{3}{5}$$



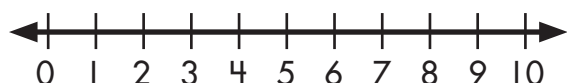
2.  $15 \times x \leq 15$



$$h \div 6 < -12$$



3.  $-10a < -70$



$$n \div 2 \geq 2$$

