

How to Solve Inequalities

Solve an inequality exactly how you would an equation.
Isolate the variable to one side.

THE DIFFERENCE IS:

When you multiply or divide by a negative number, reverse the $><$ symbol.



Solving Two-Step Inequalities

1. Add or subtract to isolate the variable term.
2. Multiply or divide to solve for the variable. If **multiply or divide** by a **negative number** then **reverse the inequality symbol**.

Example:

$$-3x + 5 \leq -16$$

$$\begin{array}{r} -5 \\ -5 \end{array} \text{ Subtract}$$

$$-3x \leq -21$$

$$\begin{array}{r} -3x \\ -3 \end{array} \geq \begin{array}{r} -21 \\ -3 \end{array} \text{ Divide by } -3, \text{ reverse inequality}$$

$$x \geq 7$$