You solve inequalities the same way as you solve equations.

**Balancing the Equation**
This method is one based on whatever you do to one side of the equation you must do to the other in order to keep it balanced. Think of each side as if it were on a balance scale. You are trying to get the variable by itself.
Example: \( x + 7 > -5 \)

**Step 1:** What number is on the same side of the equals sign as the variable?
\[
x + 7 > -5 \\
\text{We are adding 7}
\]

**Step 2:** Cancel out that number by completing the inverse operation.
The inverse of adding 7 is subtracting 7. So,
\[
x + 7 > -5 \\
-7
\]

**Step 3:** Whatever you do to one side of the equal sign, you **MUST** do to the other.
\[
x + 7 > -5 \\
-7-7 \\
x > -12
\]

**Arrow Method**
Step 1: Who is the variable? (Place this to the left)
\[
x
\]
Step 2: What does the equation equal? (Place this to the right)
\[
x = -5
\]
Step 3: What do you have to do to the variable to get what the equation equals? (Place this above and in the middle)
\[
+7
\]
\[
x = -5
\]

Step 4: What is the opposite of that? (Place this below and in the middle)
\[
+7
\]
\[
x = -5
\]
\[
-7
\]
Step 5: Work the problem backwards.
   (The top arrow explains the problem, while the bottom arrow explains the solution.)
   -5 – 7 > -12; Therefore, x > -12

**Working with Inequalities Signs**
After solving the inequality, either algebraically or using the arrow method, ask yourself the following questions:

To solve the problem, (looking at the bottom arrow if using the arrow method), did I:
   - Multiply by a negative number? no
   - Divide by a negative number? no
   - Switch the side the variable was on? no

Each time you answer yes to one of the above questions, you must flip the inequality sign so that it faces in the opposite direction.
We answered no to all of the questions above; therefore, we do not reverse the inequality sign at all.