

Solving Quadratic and Rational Inequalities

Steps to Solve Quadratic Inequalities

Step 1: Change the inequality to an equation.

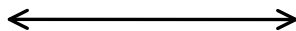
Step 2: Set the equation equal to zero and factor.

Step 3: Solve for the variable.

Step 4: Place the solutions on a number line and test values in each interval.

Directions: Solve the inequality. Write the solution in interval notation and graph the solution on a number line.

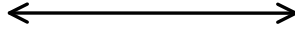
1. $x^2 + 2x - 3 < 0$



2. $x^3 - 3x^2 - x + 3 \geq 0$



3. $2x^3 - x^4 \leq 0$



Steps to Solve Rational Inequalities

Step 1: Change the inequality to an equation.

Step 2: Combine the fractions.

Step 3: Set the numerator and denominator equal to zero and solve for the variable.

Step 4: Place the solutions on a number line and test values in each interval.

4. $\frac{5}{x} - x > 4$



5. $\frac{x+12}{x+2}-3 \leq 0$

