

Rational Inequalities

A **rational inequality** is an inequality that contains one or more rational expressions.

Example #1:

Solve $\frac{6}{x-8} \leq 3$ algebraically.

Step 1: State where the expression is undefined.

Step 2: Solve the expression for the indicated variable.

Step 3: Use that solution and the excluded value in a number line test.

Example #2:

Solve $\frac{9}{x+3} < 6$ algebraically

Step 1: State where the expression is undefined.

Step 2: Solve the expression for the indicated variable.

Step 3: Use that solution and the excluded value in a number line test.

You try: **Solve** $\frac{6}{x-2} \geq -4$ **algebraically.**

You try: **Solve** $\frac{8}{x+5} < 4$