

Grade 9 - Unit 6 Linear Equations and Inequalities

PR04 Students will be expected to explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context.

Performance Indicators

- PR04.01** Translate a given problem into a single variable linear inequality, using the symbols \geq , $>$, $<$, or \leq .
- PR04.02** Determine if a given rational number is a possible solution of a given linear inequality.
- PR04.03** Generalize and apply a rule for adding or subtracting a positive or negative number to determine the solution of a given inequality.
- PR04.04** Generalize and apply a rule for multiplying or dividing by a positive or negative number to determine the solution of a given inequality.
- PR04.05** Solve a given linear inequality algebraically, and explain the process orally or in written form.
- PR04.06** Compare and explain the process for solving a given linear equation to the process for solving a given linear inequality.
- PR04.07** Graph the solution of a given linear inequality on a number line.
- PR04.08** Compare and explain the solution of a given linear equation to the solution of a given linear inequality.
- PR04.09** Verify the solution of a given linear inequality, using substitution for multiple elements in the solution.
- PR04.10** Solve a given problem involving a single variable linear inequality, and graph the solution.

Limited	Developing	Competent	In-Depth
<p>Student knows the difference between the symbols $>$, $<$ and the symbols \geq, \leq</p> <p>Student can apply a rule for adding and subtracting, multiplying and dividing positive numbers in a linear inequality</p> <p>Student recognizes that a single variable linear inequality will have many solutions.</p>	<p>Student can use a number line to show the different effects that the symbols $>$, $<$ and \geq, \leq have on the graph</p> <p>Student can apply a rule for adding, subtracting, multiplying and dividing positive numbers to determine the solution of a given inequality</p> <p>Student can solve a given linear inequality with rational coefficients.</p> <p>Student can match a linear inequality to the graph of its solutions.</p> <p>Student can determine if a given integer is a possible solution of a given linear inequality.</p>	<p>Student can translate a given statement into a single variable linear inequality using the symbols \geq, $>$, $<$, or \leq</p> <p>Student can generalize and apply rules for adding, subtracting, multiplying and dividing with positive or negative numbers to determine the solution of a given inequality</p> <p>Student can solve and graph the solution of a given linear inequality with rational coefficients within a problem solving context and explain my thinking.</p> <p>Student can compare and explain the solution of a given linear equation to the solution of a given linear inequality.</p> <p>Student can verify the solution of a given linear inequality, using substitution for multiple elements, including rational numbers, in the solution.</p>	<p>Student can create and solve a real-world problem relating to linear inequality with a meaningful and relevant context to their own life</p> <p>Student can solve and explain the process of a solution to a given linear inequality using a variety of strategies</p>