Grades 6-8 Inequalities Progression

| SOL 6.14 | SOL 7.13 | SOL 8.18 |
| --- | --- | --- |
| Essential Knowledge and Skills | Essential Knowledge and Skills | Essential Knowledge and Skills |
| The student will use problem solving, mathematical communication, mathematical reasoning, connections and representation to* Given a verbal description, represent a practical situation with a one-variable linear inequality. (a)
* Apply properties of real numbers and the addition or subtraction property of inequality to solve a one-step linear inequality in one variable, and graph the solution on a number line. Numeric terms being added or subtracted from the variable are limited to integers. (b)
* Given the graph of a linear inequality with integers, represent the inequality two different ways (e.g., *x* < -5 or -5 > *x*) using symbols. (b)
* Identify a numerical value(s) that is part of the solution set of a given inequality. (a, b)
 | The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to* Apply properties of real numbers and the multiplication and division properties of inequality to solve one-step inequalities in one variable, and the addition, subtraction, multiplication, and division properties of inequality to solve two-step inequalities in one variable. Coefficients and numeric terms will be rational.
* Represent solutions to inequalities algebraically and graphically using a number line.
* Write verbal expressions and sentences as algebraic expressions and inequalities.
* Write algebraic expressions and inequalities as verbal expressions and sentences.
* Solve practical problems that require the solution of a one- or two-step inequality.
* Identify a numerical value(s) that is part of the solution set of a given inequality.
 | The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to* Apply properties of real numbers and properties of inequality to solve multistep linear inequalities (up to four steps) in one variable with the variable on one or both sides of the inequality. Coefficients and numeric terms will be rational. Inequalities may contain expressions that need to be expanded (using the distributive property) or require collecting like terms to solve.
* Graph solutions to multistep linear inequalities on a number line.
* Write verbal expressions and sentences as algebraic expressions and inequalities.
* Write algebraic expressions and inequalities as verbal expressions and sentences.
* Solve practical problems that require the solution of a multistep linear inequality in one variable.
* Identify a numerical value(s) that is part of the solution set of a given inequality.
 |