

## SD Common Core State Standards Disaggregated Math Template

<b>Domain:</b>	Expressions and Equations	<b>Cluster:</b>	Apply and extend previous understandings of arithmetic to algebraic expressions	<b>Grade level:</b>	6
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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
<p>5.OA.1 Write and interpret numerical expressions: use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p>5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</p>	<p>6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.</p>	<p>7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, <math>3^2 \times 3^(-5) = 3^(-3)</math> - <math>1/(3^3) = 1/27</math>.</p>

Student Friendly Language:
<p>I can evaluate an expression that uses addition, subtraction, multiplication, division, and whole number exponents.</p> <p>I can explain what exponents stand for and use them to find the value of an expression.</p> <p>I can write a numerical expression that uses addition, subtraction, multiplication, division, and whole number exponents.</p>

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Numerical expression is a mathematical statement</li> <li>• Sequence of the order of operations</li> </ul>	<p>Order of operations must be followed to properly evaluate an expression.</p> <p>Exponents represent repeated multiplication of the same factor.</p> <p>Numerical expressions can be written to represent real life situations.</p>	<p>Explain what an exponent is and how it is used.</p> <p>Write and evaluate a numerical expression using whole number exponents.</p> <p>Apply order of operations when evaluating expressions using whole number exponents.</p> <p>Expand an exponent by showing repeated multiplication to find its value.</p> <p>Represent repeated multiplication of the same factor using an exponent.</p>

Key Vocabulary:														
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">numerical expression</td> <td style="width: 12.5%;">evaluate</td> <td style="width: 12.5%;">exponents</td> <td style="width: 12.5%;">order of operations</td> <td style="width: 12.5%;"><u>power</u></td> <td style="width: 12.5%;"><u>base</u></td> <td style="width: 12.5%;"><u>factor</u></td> </tr> <tr> <td>sum</td> <td>product</td> <td>quotient</td> <td>difference</td> <td>value</td> <td>cubed</td> <td>squared</td> </tr> </table>	numerical expression	evaluate	exponents	order of operations	<u>power</u>	<u>base</u>	<u>factor</u>	sum	product	quotient	difference	value	cubed	squared
numerical expression	evaluate	exponents	order of operations	<u>power</u>	<u>base</u>	<u>factor</u>								
sum	product	quotient	difference	value	cubed	squared								
<p><b>Relevance and Applications:</b> How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?</p>														
<p>Create a fenced-in area for your pet. Using a specified number of fencing pieces, draw all the possible sizes of pens that you could create to give your pet the largest area. When finished use the largest pen to write a numerical expression to show how to find the area.</p> <p>When given an "x" by "x" sized pool (for example x=10 meters), determine the number of tiles needed to go around the perimeter of the pool. Write a numerical expression to show the number of tiles needed for the pool.</p> <p>The tree frog population doubles every three weeks. Assume that there are 10 tree frogs in your backyard now. How many will there be in 24 weeks?</p> <p>If you went out for recess and shook hands with two other students, then they shook hands with two different students, and those students each shook hands with two different students, how many hands have been shaken?</p>														

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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
<p>5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.</p>	<p>6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.</p> <p style="margin-left: 20px;">a. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract y from 5" as <math>5 - y</math>.</i></p> <p style="margin-left: 20px;">b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression <math>2(8 + 7)</math> as a product of two factors; view <math>(8 + 7)</math> as both a single entity and a sum of two terms.</i></p> <p style="margin-left: 20px;">c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas <math>V = s^3</math> and <math>A = 6s^2</math> to find the volume and surface area of a cube with sides of length <math>s = 1/2</math>.</i></p>	<p>7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p style="margin-left: 20px;">a. Solve word problems leading to equations of the form <math>px + q = r</math> and <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p> <p style="margin-left: 20px;">b. Solve word problems leading to inequalities of the form <math>px + q &gt; r</math> or <math>px + q &lt; r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.</p>

### Student Friendly Language:

- I can write an algebraic expression using variables, numbers, and operation symbols to represent the problem.
- I can identify clue/key words to write algebraic expressions.
- I can identify clue/keywords to evaluate algebraic expressions.
- I can apply an algebraic expression to formulas such as volume and area.
- I can use order of operations to evaluate algebraic expressions.
- I can substitute the information from the problem into the expression/formula.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Terms of an expression</li> <li>• Clue/key words that signal operations</li> <li>• Order of operations</li> </ul>	<p>Expressions are a mathematical way to represent real life problems.</p> <p>Variables represent an unknown quantity in the problem.</p> <p>The value of an expression varies as the value of the variable changes.</p> <p>Following the order of operations is essential.</p> <p>Algebraic expressions are useful when solving formulas</p>	<p>Read and identify the relevant information from the problem.</p> <p>Write an expression using the relevant information.</p> <p>Evaluate the expression or formulas for various numerical values.</p> <p>Recognize when algebraic formulas are useful in other subject areas and use them appropriately.</p>

**Key Vocabulary:**

algebraic expression	variable	numerical expression	constant	coefficient	term
sum	difference	product	factor	quotient	formula
evaluate	exponents	substitute	order of operations		parentheses

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

Make a table and write an expression to find out how many hours at \$8 an hour you would have to work to purchase a \$239 iPod.

Compute the time it takes to get to different cities at a constant speed.

Compute the cost of bowling per game plus amount for renting shoes: The cost of a bowling game is \$15 plus a \$3 rental fee per person for shoes.

Figure cell phone, cable, water, and electricity bills.

Figure shopping and coupon totals.

Figure restaurant with tip bills: After eating at Buffalo Wild Wings, your total comes to \$23.41. How much would you charge your credit card if you leave a 15% tip?

Buy tickets with age group variations.

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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
<p>5.OA.1 Use parentheses, brackets, or braces in numerical expressions and evaluate expressions with these symbols.</p> <p>5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</p>	<p>6.EE.3 Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression <math>3(2 + x)</math> to produce the equivalent expression <math>6 + 3x</math>; apply the distributive property to the expression <math>24x + 18y</math> to produce the equivalent expression <math>6(4x + 3y)</math>; apply properties of operations to <math>y + y + y</math> to produce the equivalent expression <math>3y</math>.</p>	<p>7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p>

Student Friendly Language:
<p>I can apply the distributive property to write equivalent algebraic expressions.                      I can apply the associative property to write equivalent algebraic expressions.                      I can apply the commutative property to write equivalent algebraic expressions.</p>

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>Mathematical properties include distributive, associative and commutative</li> </ul>	<p>By applying the associative, commutative, and distributive properties, they can create equivalent expressions to make problem solving easier.</p> <p>The associative, commutative, and distributive properties can be applied to algebraic expressions.</p>	<p>Identify the associative, commutative, and distributive properties when given examples.</p> <p>Demonstrate the use of the distributive property, associative property, and commutative property showing that two different expressions are equal.                      Examples: <math>5(x+2)=5x + 10</math>  <math>5x + 10=5(x+2)</math></p> <p>Create equivalent expressions in a real world problem.</p>

Key Vocabulary:								
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">equivalent expression</td> <td style="width: 25%;">distributive property</td> <td style="width: 25%;">algebraic expression</td> <td style="width: 25%;">commutative property</td> </tr> <tr> <td>associative property</td> <td>coefficient</td> <td></td> <td></td> </tr> </table>	equivalent expression	distributive property	algebraic expression	commutative property	associative property	coefficient		
equivalent expression	distributive property	algebraic expression	commutative property					
associative property	coefficient							
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?								
<p>The length of the rectangle is twice the width. How can I express the perimeter? What is an equivalent expression?</p> <p>Justin bought 43 cards that cost 85 cents each and 43 envelopes that cost 15 cents each. Write an equivalent expression using the distributive property to find the total cost. How much did he spend on cards and envelopes?</p>								

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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
<p>5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation "add 8 and 7, then multiply by 2" as <math>2 \times (8 + 7)</math>. Recognize that <math>3 \times (18932 + 921)</math> is three times as large as <math>18932 + 921</math>, without having to calculate the indicated sum or product.</i></p>	<p>6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions <math>y + y + y</math> and <math>3y</math> are equivalent because they name the same number regardless of which number <math>y</math> stands for.</p>	<p>7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. <i>For example, <math>a + 0.05a = 1.05a</math> means that "increase by 5%" is the same as "multiply by 1.05."</i></p>

Student Friendly Language:
<p>I can identify when two expressions are equivalent.                      I can combine like terms in an expression.                      I can write expressions that include variables in a variety of ways.</p>

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Properties of arithmetic</li> </ul>	<p>Combining like terms leads to simplifying expressions.</p> <p>Expressions can look different and can be equivalent.</p> <p>A variable represents a consistent value in an expression.</p> <p>The value of two equivalent expressions are equal regardless of the value that is substituted for the variable.</p>	<p>Rewrite an algebraic expression as equivalent algebraic expressions in multiple ways.</p> <p>Identify when two expressions are equal.</p> <p>Explain why two expressions are equivalent using pictures, tiles, diagrams, and algebraic expressions.</p> <p>Demonstrate that combining like terms leads to simplifying expressions.</p>

Key Vocabulary:										
<table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">equivalence</td> <td style="width: 20%;">equivalent expressions</td> <td style="width: 20%;">algebraic expressions</td> <td style="width: 20%;">like terms</td> <td style="width: 20%;">combine</td> </tr> <tr> <td>variable</td> <td>unknown</td> <td>properties of arithmetic</td> <td>coefficient</td> <td></td> </tr> </table>	equivalence	equivalent expressions	algebraic expressions	like terms	combine	variable	unknown	properties of arithmetic	coefficient	
equivalence	equivalent expressions	algebraic expressions	like terms	combine						
variable	unknown	properties of arithmetic	coefficient							

Relevance and Applications:
<p>How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?</p> <p>Mental Math: A student buys 3 CD's. Write two equivalent algebraic expressions you could use to solve this problem.                      College Days:                      Jane and her three college friends each pay the same portion for the cost of a 3-bedroom apartment. Each girl's rent is <math>n</math> dollars. Write an algebraic expression that represents the total cost of the rent. Write an equivalent expression for the total cost.                      Football:                      The length of the Jet's football field is 30 yards more than its width. The football teams in the rest of the league have the same sized fields. Write an algebraic expression to find the length of 3 football fields.                      Skiing: If 5 students are going up to skiing and you know the individual cost is \$40, what are the different ways that you could find the total cost?                      Using a variable for the number of students attending, how can you express the total cost?</p>

## SD Common Core State Standards Disaggregated Math Template

<b>Domain:</b>	Expressions and Equations	<b>Cluster:</b>	Reason about and solve one-variable equations and inequalities	<b>Grade Level:</b>	6
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Correlating Standard in Previous Year	Number Sequence and Standard	Correlating Standard in Following Year
NA	6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Student Friendly Language:
<p>I can use reasoning to find which number or numbers make an equation or inequality true.</p> <p>I can check my answer by substituting it into the equation.</p> <p>I can use substitution to find which number or numbers make an equation or inequality true.</p>

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>The value on both sides of an equation must be equal</li> <li>Inequalities have more than one solution</li> <li>Symbols of equality and inequality</li> </ul>	<p>Solving an equation/inequality is a process of finding a number or numbers, that make the equation/inequality true.</p> <p>There may be some equations/inequalities that have no solution within the given set.</p> <p>There may be some equations/inequalities that have a solution set of all real numbers.</p> <p>An equation is true if the expressions on both sides of the equal sign are equivalent.</p>	<p>Substitute a value to determine whether or not that value makes the equation true.</p> <p>Substitute a value to determine whether or not that value makes the inequality true.</p> <p>Determine whether or not both sides of an equation are equivalent.</p> <p>Use reasoning to determine which number or numbers make an equation or inequality true.</p>

Key Vocabulary:
equation    inequality    solution    solution set    substitution    equal    solve    evaluate variable
Relevance and Applications:
<p>How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?</p> <p>Juan is selling hats for \$5. He paid \$36 for his supplies. How many hats does he need to sell to make a profit? Which of the following amounts make this inequality true? (4,6,8,10) <math>5x &gt; 36</math></p> <p>You have \$12 and want to buy a toy for \$37. How much more money do you need to buy the toy? <math>12 + x = 37</math> Which of the following amounts make this equation true? (12, 25, 37)</p>

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<b>Domain:</b>	Expressions and Equations	<b>Cluster:</b>	Reason about and solve one-variable equations and inequalities	<b>Grade level:</b>	6
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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
NA	6.EE.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

<b>Student Friendly Language:</b>
I can use variables to write an algebraic expression to solve a real-world or mathematical problem.
I can use a variable to represent a number in a real-world or mathematical problem.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>Variables represent a number</li> <li>Algebraic expressions represent mathematical situations</li> </ul>	<p>Variables can represent an unknown number or any number in a specified set.</p> <p>Algebraic expressions are used to solve real-world or mathematical problems.</p>	<p>Write an algebraic expression to use in solving a real-world or mathematical problem.</p> <p>Identify what the variable in an algebraic expression represents.</p>

<b>Key Vocabulary:</b>
<u>variable</u> <u>algebraic expressions</u> <u>substitution</u>
<b>Relevance and Applications:</b> How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
<p>If a group of five divers have a total of 85 seashells and they each collected an equal amount, how many seashells did they each collect? Write and solve an algebraic expression to represent this situation.</p>

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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
NA	6.EE.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which $p$ , $q$ and $x$ are all nonnegative rational numbers.	7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Friendly Language:
I can write addition or multiplication equations using variables.
I can solve addition or multiplication equations using variables.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Variables represent numbers</li> <li>• Mathematical operations</li> </ul>	<p>Mathematical equations can be solved using variables to represent numbers.</p> <p>A variety of strategies can be used when solving real world problems.</p>	<p>Create an equation using variables to solve a real world problem.</p> <p>Solve a real world problem using algebraic equations.</p>

Key Vocabulary:
non negative rational numbers <u>variables</u> equations
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
<p>Write all formulas that could be used to find the perimeter and area of a rectangle. Use those formulas to solve real world problems.</p> <p>Carpentry</p> <p>Lay Carpet</p>

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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
NA	6.EE.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.	7.EE. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

Student Friendly Language:
<p>I can explain variables.</p> <p>I can order numbers.</p> <p>I can compare numbers.</p> <p>I can create a number line.</p> <p>I can read the greater than and less than symbol.</p> <p>I can write math sentences using variables to represent numbers.</p> <p>I can identify many solutions for problems like (<math>x &gt; 3</math>, solutions could be 4, 5, 6 and many more.)</p> <p>I can solve inequalities using variables as numbers.</p>

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Letters can represent numbers</li> <li>• Symbols are used to compare</li> <li>• Inequalities can have many solutions</li> <li>• Solutions to an inequality are represented symbolically or using a number line</li> </ul>	<p>Greater than and less than symbols are used to compare numbers.</p> <p>Greater than and less than symbols may be used to order variables.</p> <p>Number lines are used to compare values.</p> <p>Number lines are used to show a solution set for an inequality.</p>	<p>Compare numbers using greater and less than symbols.</p> <p>Use number line to graph solution set for an inequality.</p> <p>Apply knowledge of greater than or less than symbols to create a real life situation.</p>

Key Vocabulary:
inequality    variable    number line diagram    infinitely    solution    constraint    condition    solution set
Relevance and Applications: How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?
<p>Comparing food labels (nutritional value, calories, ingredients)</p> <p>Air pressure in tires</p> <p>Map skills (shortest or longest distance)</p> <p>Distance to the equator from the sun (distance from one planet to another, distance from sun to planets)</p> <p>Compare gas mileage of different vehicle</p> <p>Compare temperature</p>

## SD Common Core State Standards Disaggregated Math Template

<b>Domain:</b>	Expressions and Equations	<b>Cluster:</b>	Represent and analyze quantitative relationships between dependent and independent variables	<b>Grade level:</b>	6
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Correlating Standard in Previous Year	Number Sequence & Standard	Correlating Standard in Following Year
NA	<p>6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation <math>d = 65t</math> to represent the relationship between distance and time.</p>	<p>7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>a. Solve word problems leading to equations of the form <math>px + q = r</math> and <math>p(x + q) = r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i></p> <p>b. Solve word problems leading to inequalities of the form <math>px + q &gt; r</math> or <math>px + q &lt; r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. <i>For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</i></p>

### Student Friendly Language:

I can write an algebraic equation that explains the relationship between two variables.  
 I can represent the relationship between two variables by constructing a graph or table.  
 I can identify the independent and dependent variables in a real-world problem.

Know (Factual)	Understand (Conceptual) The students will understand that:	Do (Procedural, Application, Extended Thinking)
<ul style="list-style-type: none"> <li>• Relationship between independent and dependent variables</li> <li>• Relationship between equations, lines, and graphs</li> </ul>	<p>There is a relationship between independent and dependent variables in an equation.</p> <p>Creating an equation involves two variables.</p> <p>Equations, charts, graphs, and tables can represent the same information.</p>	<p>Interpret the effect of one variable on another variable in an equation.</p> <p>Apply the variable relationship to a real-world situation.</p> <p>Analyze the relationship of the variables in an equation by making a graph and/or table.</p>

### Key Vocabulary:

independent variable      dependent variable      line graph      constant

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

Calculate travel time: How long will it take me to travel  $x$  number of miles traveling at the speed limit? If a car sets the cruise at 55 mph estimate the time it would take to travel 125 miles? Represent your answers as a table, equation and graph.

Calculate the amount of feed needed to feed a certain number of cattle:  
 If thirty cattle eat 40 lbs of feed a week, how much would they eat in seven weeks? Represent your answers as a table, equation and graph.