

Unit 2: Expressions, Equations and Inequalities

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **7 Weeks**
Status: **Published**

UNIT RATIONALE

This unit is designed to support student's understanding of expressions, equations and inequalities. Students begin to recognize that situations involving repeated multiplication can be represented by writing the factor as a base and the number of repeated factors as the exponent. Students will write and evaluate numerical expressions involving whole-number exponents. 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. Evaluate expressions at specific values of their variables. Apply properties of operations to generate equivalent expressions. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. Students construct one-variable equations to represent equalities presented in a real-world context, including additive and multiplicative relationships. Students will apply their experience with equations and expressions to understand the definition of an inequality. Students will identify which variable is the dependent variable and which is the independent variable in a given situation. Students will use variables to represent two quantities in a real-world problem that change in relationship to one another. Finally students will 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.

ESSENTIAL QUESTIONS

- How do mathematicians write and find the value of expressions involving exponents?
- How do mathematicians write and evaluate numerical expressions?
- How do mathematicians write an algebraic expression to represent a situation?
- How do mathematicians interpret and evaluate an algebraic expression?
- How do mathematicians identify and generate equivalent expressions?
- How do mathematicians add, subtract, and factor linear expressions with rational coefficients?
- How do mathematicians write an equation to represent a situation?
- How do mathematicians solve equations that contain addition and subtraction?
- How do mathematicians solve equations that contain multiplication and division?
- How do mathematicians write and use one-step equations to represent situations and solve problems?
- How do mathematicians write and graph inequalities to represent real-world situations?
- How do mathematicians solve one-step equations that involve negative integers, fractions, and decimals?
- How do mathematicians represent an equation in a table or graph?
- How do mathematicians write an equation given a verbal description of a relationship?
- How do mathematicians write an equation using a table or graph?

STANDARDS

INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS New Section

Analyzing data in 6–8 builds on K–5 and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.

SOC.5-8.1.1

Chronological Thinking

NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

MA.6.RP.A.2	Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.
MA.6.RP.A.3b	Solve unit rate problems including those involving unit pricing and constant speed.
MA.6.RP.A.3d	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
MA.6.NS.A.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.
MA.6.NS.B.2	Fluently divide multi-digit numbers using the standard algorithm.
MA.6.NS.B.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
MA.6.NS.B.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
MA.6.NS.C.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
MA.7.NS.A.3	Solve real-world and mathematical problems involving the four operations with rational numbers.
MA.6.NS.C.6b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
MA.7.EE.A.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MA.7.EE.A.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.
MA.7.EE.B.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using

	mental computation and estimation strategies.
MA.6.NS.C.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
MA.6.EE.A.1	Write and evaluate numerical expressions involving whole-number exponents.
MA.6.EE.A.2a	Write expressions that record operations with numbers and with letters standing for numbers.
MA.6.EE.A.2b	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.
MA.1.G.A.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
MA.6.EE.A.2c	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).
MA.6.EE.A.3	Apply the properties of operations to generate equivalent expressions.
MA.6.EE.B.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.
MA.6.EE.B.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.
MA.6.EE.B.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.
MA.6.EE.B.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.
MA.6.EE.C.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.

NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS

PFL.9.1.8.CR.2	Compare various ways to give back through strengths, passions, goals, and other personal factors.
WRK.9.2.8.CAP.2	Develop a plan that includes information about career areas of interest.
TECH.9.4.8.CT	Critical Thinking and Problem-solving

NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING

PRE-ASSESSMENTS

Module 6: Numerical and Algebraic Expressions "Are You Ready?" pg 200

Module 7: Solve Problems Using Equations and Inequalities "Are You Ready?" pg 254

Module 8: Real-World Relationships Between Variables "Are You Ready?" pg 294

INSTRUCTIONAL PLAN

MODULE 6

MODULE 6: UNDERSTAND ADDITION AND SUBTRACTION OF FRACTIONS WITH UNLIKE DENOMINATORS

LESSON 6.1

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.1 We are learning to write and find the value of expressions involving exponents.
Student Learning Strategies	Use a Table to Represent Repeated Multiplication Use a Tree Diagram to Represent Repeated Multiplication
Success Criteria	I can write exponential expressions to represent repeated-multiplication situations, and I can find the value of an exponential expression.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 201, 202) Check for Understanding (p. 203)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 201B) & Spark Your Learning (p. 201) Mini-lesson: Build Understanding (p. 202-203)

	<p>Guided Practice: Check Understanding (p. 203)</p> <p>Independent Practice: On Your Own (p. 204) & Exit Ticket (TM p. 204)</p> <p>Teacher Resources: Into Math Teacher Edition Module 6-7</p> <p>Online Resources</p>
Suggested Modifications	Plan for Differentiated Instruction (TM p. 201C)

- MA.6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
- MA.6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.

LESSON 6.2

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.2 We are learning to Write and evaluate numerical expressions.
Student Learning Strategies	Use Numerical Expressions to Find the Cost Per Adult Use Guess-and-Check
Success Criteria	I can write numerical expressions to represent situations, identify terms in expressions, and use the order of operations to evaluate expressions.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 207-209) Check for Understanding (p. 210)
Activities and Resources	<p>Warm-up: Activate Prior Knowledge (TM p. 207B) & Spark Your Learning (p. 207)</p> <p>Mini-lesson: Build Understanding (p. 208-210)</p> <p>Guided Practice: Check Understanding (p. 210)</p> <p>Independent Practice: On Your Own (p. 211) & Exit Ticket (TM p. 211)</p> <p>Teacher Resources: Into Math Teacher Edition Module 6-7</p> <p>Online Resources</p>
Suggested Modifications	Plan for Differentiated Instruction (TM p. 207C)

- MA.6.RP.A.3b Solve unit rate problems including those involving unit pricing and constant speed.
- MA.6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
- MA.6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts.

MA.6.EE.A.1

Write and evaluate numerical expressions involving whole-number exponents.

MA.6.EE.A.2b

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.

LESSON 6.3

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.3 We are learning to write an algebraic expression to represent a situation.
Student Learning Strategies	Use Numerical Expressions to Solve Use an Area Model to Solve
Success Criteria	I can write algebraic expressions to represent situations and I can identify variables, coefficients, and constants.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 215, 216) Check for Understanding (p. 217)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 215B) & Spark Your Learning (p. 215) Mini-lesson: Build Understanding (p. 216-217) Guided Practice: Check Understanding (p. 217) Independent Practice: On Your Own (p. 218) & Exit Ticket (TM p.218) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 215C)

MA.6.EE.A.1

Write and evaluate numerical expressions involving whole-number exponents.

MA.6.EE.A.2

Write, read, and evaluate expressions in which letters stand for numbers.

MA.6.EE.A.2c

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).

MA.6.EE.B.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.

LESSON 6.4

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.4 We are learning to interpret and evaluate an algebraic expression.
Student Learning Strategies	Estimation
Success Criteria	I can evaluate an algebraic expression for given values of the variables.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 221, 222) Check for Understanding (p. 223)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 221B) & Spark Your Learning (p. 221) Mini-lesson: Build Understanding (p. 221-222) Guided Practice: Check Understanding (p. 223) Independent Practice: On Your Own (p. 225) & Exit Ticket (TM p. 226) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 221C)

MA.6.RP.A.3b

Solve unit rate problems including those involving unit pricing and constant speed.

MA.6.RP.A.3d

Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

MA.6.EE.A.2a

Write expressions that record operations with numbers and with letters standing for numbers.

MA.6.EE.A.2c

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).

LESSON 6.5

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.5 We are learning to identify and generate equivalent expressions.
Student Learning Strategies	Estimation

Success Criteria	I can use properties of operations to generate and identify equivalent algebraic expressions.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 229 & 231) Check for Understanding (p. 231)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 229B) & Spark Your Learning (p. 229) Mini-lesson: Build Understanding (p. 229-231) Guided Practice: Check Understanding (p. 231) Independent Practice: On Your Own (p. 232) & Exit Ticket (TM p. 234) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 229C)

MA.6.NS.C.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
MA.6.EE.A.1	Write and evaluate numerical expressions involving whole-number exponents.
MA.6.EE.A.3	Apply the properties of operations to generate equivalent expressions.
MA.6.EE.A.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).

LESSON 6.6

Student Learning Intentions (SLI) WALT: (We are learning to...)	6.6 We are learning to add, subtract, and factor linear expressions with rational coefficients.
Student Learning Strategies	Estimation
Success Criteria	I can add, subtract, factor, and expand algebraic expressions with rational coefficients, and apply these skills to real-world problems.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 129, 130, & 131) Check for Understanding (p. 131)

Activities and Resources	<p>Warm-up: Activate Prior Knowledge (TM p. 273B) & Spark Your Learning (p. 237)</p> <p>Mini-lesson: Build Understanding (p.237-238)</p> <p>Guided Practice: Check Understanding (p. 238)</p> <p>Independent Practice: On Your Own (p. 239) & Exit Ticket (TM p. 242)</p> <p>Teacher Resources: Into Math Teacher Edition Module 6-7</p> <p>Online Resources</p>
Suggested Modifications	Plan for Differentiated Instruction (TM p. 237C)

MA.7.EE.A.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MA.7.EE.A.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.
MA.7.EE.B.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
MA.6.EE.A.1	Write and evaluate numerical expressions involving whole-number exponents.
MA.6.EE.A.3	Apply the properties of operations to generate equivalent expressions.

MODULE 7

MODULE 7: SOLVE PROBLEMS USING EQUATIONS AND INEQUALITIES

MA.6.NS.A.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.
MA.6.NS.B.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
MA.6.EE.B.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.
MA.6.EE.B.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.
MA.6.EE.B.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.

LESSON 7.1

Student Learning Intentions (SLI) WALT: (We are learning to...)	<p>7.1 We are learning to write an equation to represent a situation.</p>
Student Learning Strategies	<p>Use a Variable and an Expression to Show Equality Use Examples to Show Equality</p>
Success Criteria	<p>I can write an equation to model a situation and determine whether a given value is a solution of an equation.</p>
Formative Assessment (drives instructional decisions)	<p>Turn and Talk Questions (p. 249, 250) Check for Understanding (p. 251)</p>
Activities and Resources	<p>Warm-up: Activate Prior Knowledge (TM p. 249B) & Spark Your Learning (p. 249) Mini-lesson: Build Understanding (p. 249-251) Guided Practice: Check Understanding (p.251) Independent Practice: On Your Own (p. 252) & Exit Ticket (TM p. 252) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources</p>
Suggested Modifications	<p>Plan for Differentiated Instruction (TM p. 249C)</p>

LESSON 7.2

Student Learning	<p>7.2 We are learning to solve equations that contain addition and subtraction.</p>
-------------------------	--

Intentions (SLI) WALT: (We are learning to...)	
Student Learning Strategies	Write Equations to Construct a Solution Use a Model to Construct a Solution
Success Criteria	I can solve one-step addition and subtraction equations by applying the same operation to both sides.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 255, 256, 257) Check for Understanding (p. 258)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 255B) & Spark Your Learning (p. 255) Mini-lesson: Build Understanding (p. 255-257) Guided Practice: Check Understanding (p. 258) Independent Practice: On Your Own (p. 259) & Exit Ticket (TM p. 260) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 255C)

MA.6.EE.A.1

Write and evaluate numerical expressions involving whole-number exponents.

MA.6.EE.B.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.

MA.6.EE.B.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.

LESSON 7.3

Student Learning Intentions (SLI) WALT: (We are learning to...)	<div style="border: 1px solid black; padding: 5px; margin: 10px 0;">7.3 We are learning to solve equations that contain multiplication and division.</div>
Student Learning Strategies	Evaluate Expressions to Construct a Solution Use a Model to Construct a Solution
Success Criteria	I can solve one-step multiplication and division equations by applying the same operation to both sides.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 263, 264, 265, 266) Check for Understanding (p. 266)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 263B) & Spark Your Learning (p. 263) Mini-lesson: Build Understanding (p. 264-266) Guided Practice: Check Understanding (p. 266) Independent Practice: On Your Own (p. 267-268) & Exit Ticket (TM p. 268) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources
Suggested Modifications	<div style="border: 1px solid black; padding: 5px; margin: 10px 0;">Plan for Differentiated Instruction (TM p. 263C)</div>

MA.6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

MA.6.NS.B.2

Fluently divide multi-digit numbers using the standard algorithm.

MA.6.EE.A.2a

Write expressions that record operations with numbers and with letters standing for numbers.

MA.6.EE.B.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.

LESSON 7.4

Student Learning Intentions (SLI) WALT: (We are learning to...)	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>7.4 We are learning to write and use one-step equations to represent situations and so</p> </div>
Student Learning Strategies	<p>Use a model to construct a solution. Estimation.</p>
Success Criteria	<p>I can solve problems by writing and solving one-step equations.</p>
Formative Assessment (drives instructional decisions)	<p>Turn and Talk Questions (p. 271) Check for Understanding (p. 272)</p>
Activities and Resources	<p>Warm-up: Activate Prior Knowledge (TM p. 271B) & Spark Your Learning (p. 271) Mini-lesson: Build Understanding (p.271-272) Guided Practice: Check Understanding (p. 272) Independent Practice: On Your Own (p. 273-274) & Exit Ticket (TM p. 274) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources</p>
Suggested Modifications	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Plan for Differentiated Instruction (TM p. 271C)</p> </div>

MA.6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

MA.6.EE.B.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.

LESSON 7.5

Student Learning Intentions (SLI) WALT: (We are learning to...)	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>7.5 We are learning to write, graph and solve inequalities to represent real-world situations</p> </div>
Student Learning Strategies	<p>Estimation Use models to construct inequalities.</p>
Success Criteria	<p>I can solve a one-step equation with negative integers, fractions, and decimals.</p>
Formative Assessment (drives instructional decisions)	<p>Turn and Talk Questions (p.277, 278) Check for Understanding (p. 279)</p>
Activities and Resources	<p>Warm-up: Activate Prior Knowledge (TM p. 277B) & Spark Your Learning (p. 129) Mini-lesson: Build Understanding (p. 278-279) Guided Practice: Check Understanding (p. 279) Independent Practice: On Your Own (p. 280-281) & Exit Ticket (TM p. 281) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources</p>
Suggested Modifications	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Plan for Differentiated Instruction (TM p. 277C)</p> </div>

MA.6.NS.B.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
MA.7.NS.A.3	Solve real-world and mathematical problems involving the four operations with rational numbers.
MA.6.EE.B.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.
MA.6.EE.B.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.

LESSON 7.6

<p>Student Learning Intentions (SLI) WALT: (We are learning to...)</p>	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>7.6 We are learning to solve one-step equations that involve negative integers, fraction</p> </div>
<p>Student Learning Strategies</p>	<p>Use models to construct equations. Estimation.</p>
<p>Success Criteria</p>	<p>I can solve a one-step equation with negative integers, fractions, or decimals</p>
<p>Formative Assessment (drives instructional decisions)</p>	<p>Turn and Talk Questions (p. 285, 286) Check for Understanding (p. 286)</p>
<p>Activities and Resources</p>	<p>Warm-up: Activate Prior Knowledge (TM p. 285B) & Spark Your Learning (p. 129) Mini-lesson: Build Understanding (p. 285-286) Guided Practice: Check Understanding (p. 286) Independent Practice: On Your Own (p. 287) & Exit Ticket (TM p.287) Teacher Resources: Into Math Teacher Edition Module 6-7 Online Resources</p>
<p>Suggested Modifications</p>	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Plan for Differentiated Instruction (TM p. 285C)</p> </div>

MA.6.NS.B.2

Fluently divide multi-digit numbers using the standard algorithm.

MA.7.NS.A.3

Solve real-world and mathematical problems involving the four operations with rational numbers.

MA.6.NS.C.6b

Understand signs of numbers in ordered pairs as indicating locations in quadrants of the

coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

MA.6.EE.A.3

Apply the properties of operations to generate equivalent expressions.

MA.6.EE.B.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.

MA.6.EE.B.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.

MA.6.EE.B.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.

MA.6.EE.C.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.

MODULE 8

MODULE 8: REAL-WORLD RELATIONSHIPS BETWEEN VARIABLES

LESSON 8.1

Student Learning Intentions (SLI) WALT: (We are learning to...)	8.1 We are learning to represent an equation in a table or graph.
Student Learning Strategies	Use Subtraction and Division to Calculate Averages Use a Table to Relate Sizes of Parts
Success Criteria	I can make a table to represent the equation for a real-world relationship, and I can graph the ordered pairs from the table.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 295 & 297, 298) Check for Understanding (p. 298)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 297B) & Spark Your Learning (p. 295) Mini-lesson: Build Understanding (p. 295-297) Guided Practice: (p. 297) Independent Practice: On Your Own (p. 299) & Exit Ticket

	(TM p. 298) Teacher Resources: Into Math Teacher Edition Module 8 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 295C)

MA.6.NS.B.3

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

MA.6.EE.C.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.

LESSON 8.2

Student Learning Intentions (SLI) WALT: (We are learning to...)	8.2 We are learning to write an equation given a verbal description of a relationship.
Student Learning Strategies	Use Subtraction and Division to Calculate Averages Use a Table to Relate Sizes of Part
Success Criteria	I can make a table to represent the equation for a real-world relationship, and I can graph the ordered pairs from the table.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 303, 304) Check for Understanding (p. 304)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 303B) & Spark Your Learning (p. 303) Mini-lesson: Build Understanding (p. 303) and Step it Out (p. 304) Guided Practice: Check Understanding (p. 304) Independent Practice: On Your Own (p. 305) & Exit Ticket (TM p. 306) Teacher Resources: Into Math Teacher Edition Module 8 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 303C)

MA.6.RP.A.2

Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

MA.6.NS.B.3

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

- MA.1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
- MA.6.EE.C.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.

LESSON 8.3

Student Learning Intentions (SLI) WALT: (We are learning to...)	8.3 We are learning to write an equation using a table or graph.
Student Learning Strategies	Use Subtraction and Division to Calculate Averages Use a Table to Relate Sizes of Part
Success Criteria	I can use a table or graph to write an equation for a linear relationship.
Formative Assessment (drives instructional decisions)	Turn and Talk Questions (p. 309, 310, 311) Check for Understanding (p. 311)
Activities and Resources	Warm-up: Activate Prior Knowledge (TM p. 309B) & Spark Your Learning (p. 309) Mini-lesson: Build Understanding (p. 309) and Step it Out (p.310-311) Guided Practice: Check Understanding (p. 311) Independent Practice: On Your Own (p.312) & Exit Ticket (TM p. 312) Teacher Resources: Into Math Teacher Edition Module 8 Online Resources
Suggested Modifications	Plan for Differentiated Instruction (TM p. 309C)

- MA.6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- MA.6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
- MA.6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers.
- MA.6.EE.A.2c 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).

MA.6.EE.A.3

Apply the properties of operations to generate equivalent expressions.

MA.6.EE.C.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.