
Grade 7–8 | North Dakota Mathematics K–12 Standards (2018) Correlation to *Eureka Math*²® (2027)

*Eureka Math*² is a research-proven math curriculum that empowers teachers to center instructional techniques on student success. Teachers can foster more “aha!” learning moments by providing the support needed for all learners to build a more confident math mindset.

This *Eureka Math*² edition builds on a strong foundation of effective instruction. It provides teachers with guidance on delivering rigorous instruction that honors student choice and encourages confident problem-solving.

*Eureka Math*² carefully sequences mathematical content to maximize vertical alignment from kindergarten through high school. This kind of sequencing has proven to be essential in students’ mastery of math.

Teachability

*Eureka Math*² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built into the teacher materials.

Accessibility

*Eureka Math*² incorporates Universal Design for Learning (UDL) principles so all learners can access the mathematics and take on challenging math concepts. UDL, Differentiation, and Multilingual Learner supports are built into the instructional design and are clearly identified in the *Teach* book.

The curriculum also carries a focus on readability. By eliminating unnecessary words and using clear sentences, the *Eureka Math*² teacher-writers have created one of the most readable mathematics curricula on the market. The curriculum’s readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

Math Confidence

*Eureka Math*² fosters a classroom culture of learning by encouraging student-led discourse and cognitive engagement that results in confident learners. By leveraging consistent models, routines, and progressions, teachers can remove barriers and allow all students an avenue to success. Within the digital platform, each grade includes wordless videos and digital interactives that spark students’ curiosity and help them make conceptual connections. Using the *Learn* books, students wonder, explore, and make sense of mathematics, which helps them develop a strong, positive mathematical identity.

Math Attributes	Aligned Components of <i>Eureka Math</i>²
<p>6–8.MA.P</p> <p>Learners can analyze information and formulate a flexible, systematic plan to problem-solve authentic situations and reflect on the reasonableness of the solution, making revisions when necessary.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>
<p>6–8.MA.C</p> <p>Learners can create connections within and across concepts and provide examples of how they relate to other learning and ideas using supporting evidence.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>
<p>6–8.MA.R</p> <p>Learners can reason logically, citing evidence to evaluate and explain what they see, think, and conclude through exploration and justification.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

7.NO.NS Number Systems: Learners will expand their knowledge of the number system to create connections and solve problems within and across concepts.

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<p>7.NO.NS.1</p> <p>Describe the absolute value of a number as its distance from zero on a number line.</p>	<p>6 M3 Lesson 5: Comparing Rational Numbers</p> <p>6 M3 Lesson 6: Ordering Rational Numbers</p> <p>6 M3 Lesson 7: Absolute Value</p> <p>6 M3 Lesson 8: Absolute Value and Order</p> <p>6 M3 Lesson 9: Interpreting Order and Distance in Real-World Situations</p>
<p>7.NO.NS.2</p> <p>Recognize common fractions and decimal equivalencies up to a denominator of 10. Convert a rational number to a decimal using technology.</p>	<p>7–8 M1 Lesson 9: Decimal Expansions of Rational Numbers</p>

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

7.NO.O Operations: Learners will expand their computational fluency to create connections and solve problems within and across concepts.

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<p>7.NO.O.1</p> <p>Add, subtract, multiply, and divide integers using visual models and properties of operations in multi-step problems, including authentic problems.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p> <p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p> <p>7–8 M1 Lesson 4: Subtracting Integers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p> <p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>
<p>7.NO.O.2</p> <p>Add, subtract, multiply, and divide nonnegative fractions in multi-step problems, including authentic problems.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p> <p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>
<p>7.NO.O.3</p> <p>Add, subtract, multiply, and divide nonnegative decimals to the hundredth place in multi-step problems using strategies or procedures, including authentic problems.</p>	<p>6 M2 Lesson 13: Decimal Addition and Subtraction</p> <p>6 M2 Lesson 14: Patterns in Multiplying Decimals</p> <p>6 M2 Lesson 15: Decimal Multiplication</p> <p>6 M2 Lesson 21: Dividing a Decimal by a Whole Number</p> <p>6 M2 Lesson 22: Dividing a Decimal by a Decimal Greater Than 1</p> <p>6 M2 Lesson 23: Dividing a Decimal by a Decimal Less Than 1</p> <p>6 M2 Lesson 24: Living on Mars</p>

Algebraic Reasoning: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adopting approaches and solutions in novel situations.

7.AR.RP Ratios and Proportional Relationships: Learners will use ratios, rates, and proportions to model relationships and solve problems.

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<p>7.AR.RP.1</p> <p>Calculate unit rates associated with ratios of rational numbers, including ratios of lengths, areas, and other quantities measured in like or different units.</p>	<p>7–8 M2 Lesson 12: An Experiment with Ratios and Rates</p> <p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p>
<p>7.AR.RP.2</p> <p>Analyze the relationship between the dependent and independent variables of a proportional relationship using graphs and tables. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, k)$ where k is the unit rate.</p>	<p>6 M4 Lesson 22: Relationship Between Two Variables</p> <p>6 M4 Lesson 23: Graphs of Ratio Relationships</p> <p>6 M4 Lesson 24: Graphs of Non-Ratio Relationships</p> <p>6 M4 Lesson 25: The Statue of Liberty</p> <p>7–8 M2 Lesson 12: An Experiment with Ratios and Rates</p> <p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p> <p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p>

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<p>7.AR.RP.3</p> <p>Identify the constant of proportionality in tables, graphs, equations, diagrams, and descriptions of proportional relationships. Represent proportional relationships by an equation of the form $y = kx$, where k is the constant of proportionality, and describe the meaning of each variable (y, k, x) in the context of the situation.</p>	<p>7–8 M2 Lesson 13: Exploring Tables of Proportional Relationships</p> <p>7–8 M2 Lesson 14: Exploring Graphs of Proportional Relationships</p> <p>7–8 M2 Lesson 15: Relating Representations of Proportional Relationships</p> <p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p>
<p>7.AR.RP.4</p> <p>Use proportional relationships to solve multi-step problems involving ratios, percents, and scale drawings of geometric figures, including authentic problems.</p>	<p>7–8 M2 Lesson 16: Applying Proportional Reasoning</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 19: Proportional Reasoning and Percents</p> <p>7–8 M2 Lesson 20: Commissions, Fees, and Taxes</p> <p>7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip</p> <p>7–8 M2 Lesson 22: Percent Increase and Percent Decrease</p> <p>7–8 M2 Lesson 23: What Is the Best Deal?</p> <p>7–8 M2 Lesson 24: Simple Interest</p> <p>7–8 M2 Lesson 25: Applying Percent Error</p> <p>7–8 M3 Lesson 18: Scale Drawings</p> <p>7–8 M3 Lesson 19: Finding Actual Distances from a Scale Drawing</p> <p>7–8 M3 Lesson 20: Scale and Scale Factor</p> <p>7–8 M3 Lesson 21: Modeling with Scale Drawings</p> <p>7–8 M3 Lesson 22: Dilations</p>

Algebraic Reasoning: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adopting approaches and solutions in novel situations.

7.AR.EE Expressions and Equations: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adapting approaches in novel situations.

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<p>7.AR.EE.1</p> <p>Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions involving variables, integers, and/or nonnegative fractions and decimals with an emphasis on writing equivalent expressions.</p>	<p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip</p> <p>7–8 M2 Lesson 22: Percent Increase and Percent Decrease</p>
<p>7.AR.EE.2</p> <p>Write and solve equations of the form $px + q = r$ and $p(x + q) = r$, including authentic problems.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 3: Solving Equations</p> <p>7–8 M2 Lesson 4: Using Equations to Solve Inequalities</p> <p>7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities</p>
<p>7.AR.EE.3</p> <p>Write and solve one- or two-step inequalities where coefficients and solutions are integers and/or nonnegative fractions and decimals, including authentic problems. Graph the solution set of the inequality and interpret it in the context of the problem.</p>	<p>7–8 M2 Lesson 4: Using Equations to Solve Inequalities</p> <p>7–8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities</p> <p>7–8 M2 Lesson 11: Using Linear Equations to Solve Real-World Problems</p> <p>7–8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems</p> <p>7–8 M2 Lesson 18: Handstand Sprint</p> <p>7–8 M2 Lesson 23: What Is the Best Deal?</p>

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

7.GM.AV Area and Volume: Learners will use visualization and spatial reasoning to solve authentic and mathematical problems involving area, surface area, and volume of geometric figures.

North Dakota Mathematics K–12 Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.GM.AV.1</p> <p>Describe the relationship between the circumference and diameter of a circle (pi). Apply given formulas to calculate the area and circumference of a circle, including authentic problems.</p>	<p>7–8 M3 Lesson 3: Exploring and Constructing Circles</p> <p>7–8 M3 Lesson 4: Area and Circumference of a Circle</p> <p>7–8 M3 Lesson 5: Area and Circumference of Circular Regions</p> <p>7–8 M3 Lesson 6: Watering a Lawn</p>
<p>7.GM.AV.2</p> <p>Calculate areas of polygons by composing and/or decomposing them into rectangles and triangles, including authentic problems. Solve problems involving the surface area of prisms and right pyramids using nets, including authentic problems.</p>	<p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p> <p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p>
<p>7.GM.AV.3</p> <p>Solve problems involving the volume of prisms and composite solids, including authentic problems.</p>	<p>7–8 M5 Lesson 11: Surface Areas of Prisms and Pyramids</p> <p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p>

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

7.GM.GF Geometric Figures: Learners will use visualization, spatial reasoning, and geometric modeling to investigate the characteristics of figures, perform transformations, and construct logical arguments.

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<p>7.GM.GF.1</p> <p>Draw triangles from given conditions using appropriate tools. Defend whether a unique triangle, multiple triangles, or no triangle can be constructed when given three measures of angles or sides.</p>	<p>7–8 M3 Lesson 1: Sketching and Constructing Geometric Figures</p> <p>7–8 M3 Lesson 2: Conditions of Unique Triangles</p>
<p>7.GM.GF.2</p> <p>Describe the following angle-pair relationships: supplementary angles, complementary angles, vertical angles, and adjacent angles. Solve for an unknown angle in a figure by applying facts about these angles.</p>	<p>7–8 M2 Lesson 1: Finding Unknown Angle Measures</p> <p>7–8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations</p> <p>7–8 M2 Lesson 7: Solving Multi-Step Equations</p>

Data, Probability, and Statistics: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, making predictions, and understanding and applying basic concepts of probability.

7.DPS.D Data Analysis: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, and making predictions.

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<p>7.DPS.D.1</p> <p>Identify the strengths and weaknesses of a population sample including bias in the process of the data collection.</p>	<p>7–8 M6 Lesson 10: Populations and Samples</p> <p>7–8 M6 Lesson 11: Selecting a Sample</p> <p>7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean</p>
<p>7.DPS.D.2</p> <p>Analyze and draw inferences about a population using single and multiple random samples by using given measures of center and variability for the numerical data set.</p>	<p>7–8 M6 Lesson 12: Sampling Variability When Estimating a Population Mean</p> <p>7–8 M6 Lesson 13: Sampling Variability and the Effect of Sample Size</p> <p>7–8 M6 Lesson 14: Sampling Variability When Estimating a Population Proportion</p> <p>7–8 M6 Lesson 15: Comparing Sample Means</p> <p>7–8 M6 Lesson 16: Comparing Population Means</p> <p>7–8 M6 Lesson 17: Memory Games</p>

Data, Probability, and Statistics: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, making predictions, and understanding and applying basic concepts of probability.

7.DPS.P Probability: Learners will understand and apply basic concepts of probability.

North Dakota Mathematics K–12 Standards	Aligned Components of <i>Eureka Math</i> ²
<p>7.DPS.P.1</p> <p>Develop a probability model to find probabilities of theoretical events and contrast probabilities from an experimental model.</p>	<p>7–8 M6 Lesson 1: What Is Probability?</p> <p>7–8 M6 Lesson 2: Outcomes of Chance Experiments</p> <p>7–8 M6 Lesson 3: Theoretical Probability</p> <p>7–8 M6 Lesson 6: The Law of Large Numbers</p> <p>7–8 M6 Lesson 7: Picking Blue</p>
<p>7.DPS.P.2</p> <p>Develop a probability model to find theoretical probabilities of independent compound events.</p>	<p>7–8 M6 Lesson 4: Multistage Experiments</p> <p>7–8 M6 Lesson 8: Probability Simulations</p> <p>7–8 M6 Lesson 9: Simulations with Random Number Tables</p>

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

8.NO.NS Number Systems: Learners will expand their knowledge of the number system to create connections and solve problems within and across concepts.

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<p>8.NO.NS.1</p> <p>Compare and classify real numbers within the real number system.</p>	<p>8 M1 Lesson 22: Familiar and Not So Familiar Numbers</p>
<p>8.NO.NS.2</p> <p>Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them on a number line diagram, and estimate the value of irrational expressions involving one operation.</p>	<p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 22: Rational and Irrational Numbers</p>
<p>8.NO.NS.3</p> <p>Use scientific notation to represent very large or very small quantities. Interpret scientific notation generated by technology. Compare and order numbers in both scientific and standard notation.</p>	<p>7–8 M1 Lesson 10: Large and Small Positive Numbers</p> <p>7–8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation</p> <p>7–8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation</p> <p>7–8 M1 Lesson 17: Get to the Point</p>

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

8.NO.O Operations: Learners will expand their computational fluency to create connections and solve problems within and across concepts.

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<p>8.NO.O.1</p> <p>Evaluate mentally the square roots of perfect squares up to 225 and cube roots of perfect cubes up to 1,000.</p>	<p>7–8 M1 Lesson 18: Solving Equations with Squares and Cubes</p> <p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p>
<p>8.NO.O.2</p> <p>Add, subtract, multiply, and divide rational numbers using strategies or procedures.</p>	<p>7–8 M1 Lesson 1: Adding Integers and Rational Numbers</p> <p>7–8 M1 Lesson 2: KAKOOMA[®] with Rational Numbers</p> <p>7–8 M1 Lesson 3: Finding Distances to Find Differences</p> <p>7–8 M1 Lesson 4: Subtracting Integers</p> <p>7–8 M1 Lesson 5: Subtracting Rational Numbers</p> <p>7–8 M1 Lesson 6: Multiplying Integers and Rational Numbers</p> <p>7–8 M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division</p> <p>7–8 M1 Lesson 8: Dividing Integers and Rational Numbers</p>

Algebraic Reasoning: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adopting approaches and solutions in novel situations.

8.AR.EE Expressions and Equations: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adapting approaches in novel situations.

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<p>8.AR.EE.1</p> <p>Explain the relationship between repeated multiplication and the properties of integer exponents. Apply a single exponent property to generate equivalent numeric and algebraic expressions that include numerical coefficients.</p>	<p>7–8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents</p> <p>7–8 M1 Lesson 12: More Properties of Exponents</p> <p>7–8 M1 Lesson 13: Making Sense of Integer Exponents</p>
<p>8.AR.EE.2</p> <p>Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a nonnegative rational number.</p>	<p>7–8 M1 Lesson 18: Solving Equations with Squares and Cubes</p> <p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M1 Lesson 20: Using the Pythagorean Theorem</p> <p>7–8 M1 Lesson 21: Approximating Values of Roots</p> <p>7–8 M1 Lesson 23: Revisiting Equations with Squares and Cubes</p>
<p>8.AR.EE.3</p> <p>Explain the characteristics of a linear relationship, including identifying the slope and y-intercept in tables, graphs, equations, and descriptions.</p>	<p>7–8 M4 Lesson 1: Solutions to Linear Equations in Two Variables</p> <p>7–8 M4 Lesson 2: The Graph of a Linear Equation in Two Variables</p> <p>7–8 M4 Lesson 3: Lines with Special Characteristics</p> <p>7–8 M4 Lesson 8: Slope-Intercept Form of the Equation of a Line</p> <p>7–8 M4 Lesson 9: Point-Slope Form of the Equation of a Line</p> <p>7–8 M4 Lesson 10: Comparing Equations in Different Forms</p> <p>7–8 M4 Lesson 12: Identifying Solutions</p>

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<p>8.AR.EE.4</p> <p>Represent linear relationships using tables, graphs, equations, and descriptions when given a relationship in one of these forms.</p>	<p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p> <p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p>
<p>8.AR.EE.5</p> <p>Solve linear equations with rational number coefficients and variables on both sides, including equations that require using the distributive property and/or combining and collecting like terms. Interpret the number of solutions. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions.</p>	<p>7–8 M2 Lesson 8: Solving Equations with Rational Coefficients</p> <p>7–8 M2 Lesson 9: Linear Equations with More Than One Solution</p> <p>7–8 M2 Lesson 10: Another Possible Number of Solutions</p>
<p>8.AR.EE.6</p> <p>Read, write, and evaluate numerical and algebraic expressions including expressions involving absolute value. Solve and graph equations of the form $x = r$ where r is a nonnegative rational number.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>

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<p>8.AR.EE.7</p> <p>Solve and graph inequalities in one variable with rational number coefficients and variables on both sides, including inequalities that require using the distributive property and/or combining like terms.</p>	<p>A1 M1 Lesson 7: Printing Presses</p> <p>A1 M1 Lesson 8: Solution Sets for Equations and Inequalities in One Variable</p> <p>A1 M1 Lesson 13: Solving Linear Inequalities in One Variable</p> <p>A1 M1 Lesson 15: Solving and Graphing Compound Inequalities</p>
<p>8.AR.EE.8</p> <p>Graph linear inequalities in two variables on a coordinate plane. Interpret the possible solutions in the context of authentic problems.</p>	<p>A1 M2 Lesson 4: Solution Sets of Linear Inequalities in Two Variables</p> <p>A1 M2 Lesson 5: Graphing Linear Inequalities in Two Variables</p> <p>A1 M2 Lesson 12: Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 13: Graphing Solution Sets of Systems of Linear Inequalities</p> <p>A1 M2 Lesson 14: Applications of Systems of Linear Inequalities</p> <p>A1 M6 Lesson 6: Designing a Fundraiser</p>

Algebraic Reasoning: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adopting approaches and solutions in novel situations.

8.AR.F Functions: Learners will develop a foundational knowledge of functions and use them to model relationships between quantities.

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<p>8.AR.F.1</p> <p>Defend whether a relation is a function from various representations using appropriate function language.</p>	<p>7–8 M5 Lesson 1: Motion and Speed</p> <p>7–8 M5 Lesson 2: Definition of a Function</p> <p>7–8 M5 Lesson 4: More Examples of Functions</p> <p>7–8 M5 Lesson 5: Graphs of Functions and Equations</p>
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<p>8.AR.F.2</p> <p>Compare and contrast properties of two linear functions, each represented in a different way (algebraically, graphically, numerically in tables, and/or by descriptions).</p>	<p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>7–8 M5 Lesson 8: Comparing Functions</p>
<p>8.AR.F.3</p> <p>Compare and contrast linear and nonlinear functions represented in different ways (algebraically, graphically, numerically in tables, and/or by descriptions).</p>	<p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>7–8 M5 Lesson 8: Comparing Functions</p>
<p>8.AR.F.4</p> <p>Model a linear function between two quantities by creating a table, graph, and equation. Interpret the rate of change and initial value of a linear function in terms of the situation it models.</p>	<p>7–8 M4 Lesson 4: Comparing Proportional Relationships</p> <p>7–8 M4 Lesson 5: Proportional Relationships and Slope</p> <p>7–8 M5 Lesson 6: Linear Functions and Rate of Change</p> <p>7–8 M5 Lesson 7: Interpreting Rate of Change and Initial Value</p> <p>7–8 M5 Lesson 23: Applications of Volume</p>
<p>8.AR.F.5</p> <p>Describe qualitatively the functional relationship between two quantities by analyzing a graph including where the function is constant, increasing, or decreasing; linear or nonlinear; and discrete or continuous. Create a graph that exhibits the qualitative features of a function described.</p>	<p>7–8 M5 Lesson 9: Increasing and Decreasing Functions</p> <p>7–8 M5 Lesson 10: Graphs of Nonlinear Functions</p>

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

8.GM.AV Area and Volume: Learners will use visualization and spatial reasoning to solve problems involving area, surface area, and volume of geometric figures.

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<p>8.GM.AV.1</p> <p>Apply given formulas to solve problems involving the volume of cones, cylinders, and spheres, including authentic problems.</p>	<p>7–8 M5 Lesson 16: Volume of Prisms</p> <p>7–8 M5 Lesson 17: Volume of Cylinders</p> <p>7–8 M5 Lesson 18: Designing a Fish Tank</p> <p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p> <p>7–8 M5 Lesson 20: Volume of Spheres</p> <p>7–8 M5 Lesson 21: Volume of Composite Solids</p> <p>7–8 M5 Lesson 22: Volumes of Truncated Cones and Pyramids</p> <p>7–8 M5 Lesson 23: Applications of Volume</p>

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

8.GM.GF Geometric Figures: Learners will use visualization, spatial reasoning, and geometric modeling to investigate the characteristics of figures, perform transformations, and construct logical arguments.

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K–12 Standards**

Aligned Components of *Eureka Math*²

<p>8.GM.GF.1</p> <p>Perform single transformations to a figure on the coordinate plane and determine whether the figures are congruent or similar.</p>	<p>7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane</p> <p>7–8 M3 Lesson 22: Dilations</p> <p>7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations</p> <p>7–8 M3 Lesson 24: Figures and Dilations</p> <p>7–8 M3 Lesson 25: The Shadowy Hand</p> <p>7–8 M3 Lesson 26: Dilations on the Coordinate Plane</p>
<p>8.GM.GF.2</p> <p>Describe the characteristics of transformations on the coordinate plane using transformation language.</p>	<p>7–8 M3 Lesson 9: Rigid Motions on the Coordinate Plane</p> <p>7–8 M3 Lesson 22: Dilations</p> <p>7–8 M3 Lesson 23: Using Lined Paper to Explore Dilations</p> <p>7–8 M3 Lesson 24: Figures and Dilations</p> <p>7–8 M3 Lesson 25: The Shadowy Hand</p> <p>7–8 M3 Lesson 26: Dilations on the Coordinate Plane</p>
<p>8.GM.GF.3</p> <p>Name the type of transformation(s) needed to map a pre-image to its image.</p>	<p>7–8 M3 Lesson 10: Sequencing the Rigid Motions</p> <p>7–8 M3 Lesson 11: Showing Figures Are Congruent</p> <p>7–8 M3 Lesson 12: Lines Cut by a Transversal</p>

**North Dakota Mathematics
K–12 Standards**

Aligned Components of *Eureka Math*²

<p>8.GM.GF.4</p> <p>Describe the following angle-pair relationships: interior and exterior angles of triangles and angles formed when a transversal cuts parallel lines or intersecting lines. Solve for an unknown angle in a figure by applying facts about these angles.</p>	<p>7–8 M3 Lesson 12: Lines Cut by a Transversal</p> <p>7–8 M3 Lesson 13: Angle Sum of a Triangle</p> <p>7–8 M3 Lesson 14: Exterior Angles of Triangles</p> <p>7–8 M3 Lesson 28: Exploring Angles in Similar Triangles</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p>
<p>8.GM.GF.5</p> <p>Describe the relationship between the leg lengths and the hypotenuse length of a right triangle. Determine whether a triangle is a right triangle using this relationship.</p>	<p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 17: Applications of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p> <p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p>
<p>8.GM.GF.6</p> <p>Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in two and three dimensions on and off a coordinate plane, including authentic problems.</p>	<p>7–8 M1 Lesson 19: The Pythagorean Theorem</p> <p>7–8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 17: Applications of the Pythagorean Theorem</p> <p>7–8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths</p> <p>7–8 M5 Lesson 19: Volumes of Pyramids and Cones</p>

Data, Probability, and Statistics: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, making predictions, and understanding and applying basic concepts of probability.

8.DPS.D Data Analysis: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, and making predictions.

North Dakota Mathematics K–12 Standards	Aligned Components of <i>Eureka Math</i> ²
<p>8.DPS.D.1</p> <p>Interpret scatter plots for bivariate measurement data to investigate patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</p>	<p>7–8 M6 Lesson 18: Scatter Plots</p> <p>7–8 M6 Lesson 19: Patterns in Scatter Plots</p>
<p>8.DPS.D.2</p> <p>Draw an informal trend line on a given scatter plot with a linear association and justify its fit by describing the closeness of the data points to the line.</p>	<p>7–8 M6 Lesson 20: Informally Fitting a Line to Data</p> <p>7–8 M6 Lesson 21: Linear Models</p>
<p>8.DPS.D.3</p> <p>Solve authentic problems in the context of bivariate measurement data by interpreting the slope and intercept(s) and making predictions using a linear model.</p>	<p>7–8 M6 Lesson 20: Informally Fitting a Line to Data</p> <p>7–8 M6 Lesson 21: Linear Models</p>
<p>8.DPS.D.4</p> <p>Construct and interpret a two-way table summarizing bivariate categorical data collected from the same subjects.</p>	<p>7–8 M6 Lesson 22: Bivariate Categorical Data</p> <p>7–8 M6 Lesson 23: Association in Bivariate Categorical Data</p> <p>7–8 M6 Lesson 24: Analyzing Bivariate Categorical Data</p>