

A photograph of a classroom with two wooden desks. Each desk has a black top and a white sheet of paper. A pencil lies on each desk. In the background, there is a whiteboard and a colorful display board. A red abacus is visible on the left side of the frame.

DRAFT New Louisiana
Standards for 2016-2017
Correlation to *Eureka Math*

Geometry
April 2016
Draft

**EUREKA
MATH™**

Geometry Mathematics

The majority of the Geometry Louisiana Standards for Mathematics are fully covered by the Geometry Eureka Math curriculum. The primary areas where the Geometry Louisiana Standards for Mathematics and the Geometry Eureka Math curriculum do not align are in the domains of Congruence and Statistics and Probability. Standards from the Congruence domain will require the use of supplemental materials. Standards from the Statistics and Probability domain will require use of Eureka Math content from other grade levels. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, Eureka Math can ensure students are successful in achieving the proficiencies of the Louisiana Standards for Mathematics while benefiting from the coherence and rigor of Eureka Math.

Indicators



Green indicates that the Louisiana standard is fully addressed in *Eureka Math*.



Yellow indicates that the Louisiana standard may not be completely addressed in *Eureka Math*.



Red indicates that the Louisiana standard is not addressed in *Eureka Math*.



Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Louisiana standards and in *Eureka Math*.

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

1. Make sense of problems and persevere in solving them.

High school students start to examine problems by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. By high school, students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. They check their answers to problems using different methods and continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 1, which is specifically addressed in the following modules:

- Geometry M4: Connecting Algebra and Geometry Through Coordinates
- Geometry M5: Circles With and Without Coordinates

2. Reason abstractly and quantitatively.

High school students seek to make sense of quantities and their relationships in problem situations. They abstract a given situation and represent it symbolically, manipulate the representing symbols, and pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Students use quantitative reasoning to create coherent representations of the problem at hand; consider the units involved; attend to the meaning of quantities, not just how to compute them; and know and flexibly use different properties of operations and objects.

Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 2, which is specifically addressed in the following module:

- Geometry M4: Connecting Algebra and Geometry Through Coordinates

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

3. Construct viable arguments and critique the reasoning of others.

High school students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. High school students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. High school students learn to determine domains to which an argument applies, listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 3, which is specifically addressed in the following modules:

- Geometry M1: Congruence, Proof, and Constructions
- Geometry M2: Similarity, Proof, and Trigonometry
- Geometry M5: Circles With and Without Coordinates

4. Model with mathematics.

High school students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. High school students making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Lessons in every module engage students in modeling with mathematics as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 4, which is specifically addressed in the following modules:

- Geometry M1: Congruence, Proof, and Constructions
- Geometry M4: Connecting Algebra and Geometry Through Coordinates

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

5. Use appropriate tools strategically.

High school students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. High school students should be sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. They are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Lessons in every module engage students in using appropriate tools strategically as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 5, which is specifically addressed in the following module:

- Geometry M1: Congruence, Proof, and Constructions

6. Attend to precision.

High school students try to communicate precisely to others by using clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Lessons in every module engage students in attending to precision as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 6, which is specifically addressed in the following modules:

- Geometry M1: Congruence, Proof, and Constructions
- Geometry M3: Extending to Three Dimensions

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

7. Look for and make use of structure.

By high school, students look closely to discern a pattern or structure. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y . High school students use these patterns to create equivalent expressions, factor and solve equations, and compose functions, and transform figures.

Lessons in every module engage students in looking for and making use of structure as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 7, which is specifically addressed in the following modules:

- Geometry M2: Similarity, Proof, and Trigonometry
- Geometry M3: Extending to Three Dimensions
- Geometry M4: Connecting Algebra and Geometry Through Coordinates
- Geometry M5: Circles With and Without Coordinates

8. Look for and express regularity in repeated reasoning.

High school students notice if calculations are repeated, and look both for general methods and for shortcuts. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, derive formulas or make generalizations, high school students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This standard is analogous to the CCSSM Standard for Mathematical Practice 8, which is specifically addressed in the following modules:

- Geometry M1: Congruence, Proof, and Constructions
- Geometry M4: Connecting Algebra and Geometry Through Coordinates

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
Congruence	Cluster A: Experiment with transformations in the plane.	
	G-CO.A.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Geometry M1 Lesson 1: Construct an Equilateral Triangle Geometry M5 Lesson 9: Arc Length and Areas of Sectors
	G-CO.A.2 Represent transformations in the plane using, e.g., transparencies, tracing paper, or geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	Geometry M1 Topic C: Transformations/Rigid Motions Note: While the module referenced meets the standard, Grade 8 Module 2, <i>The Concept of Congruence</i> , uses the tools, such as patty paper and transparencies, more often.
	G-CO.A.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Geometry M1 Lesson 15: Rotations, Reflections, and Symmetry
	G-CO.A.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Geometry M1 Topic C: Transformations/Rigid Motions
	G-CO.A.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	Geometry M1 Topic C: Transformations/Rigid Motions

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	Cluster B: Understand congruence in terms of rigid motions.	
	G-CO.B.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Geometry M1 Topic C: Transformations/Rigid Motions
	G-CO.B.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Geometry M1 Lesson 19: Construct and Apply a Sequence of Rigid Motions Geometry M1 Lesson 20: Applications of Congruence in Terms of Rigid Motions Geometry M1 Lesson 21: Correspondence and Transformations Geometry M1 Topic D: Congruence
	G-CO.B.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Geometry M1 Topic D: Congruence
	Cluster C: Prove and apply geometric theorems.	
	G-CO.C.9 Prove and apply theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	Geometry M1 Topic B: Unknown Angles Geometry M1 Topic E: Proving Properties of Geometric Figures

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-CO.C.10 Prove and apply theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.</p>	Geometry M1 Topic E: Proving Properties of Geometric Figures
	<p>G-CO.C.11 Prove and apply theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms <i>with congruent diagonals</i>.</p>	Geometry M1 Topic E: Proving Properties of Geometric Figures
	<p>Cluster D: Make geometric constructions.</p>	
	<p>G-CO.D.12 Make formal geometric constructions with a variety of tools and methods, e.g., compass and straightedge, string, reflective devices, paper folding, or dynamic geometric software. Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</p>	Geometry M1 Topic A: Basic Constructions Geometry M1 Lesson 13: Rotations Geometry M1 Lesson 14: Reflections Geometry M1 Lesson 16: Translations Geometry M1 Lesson 18: Looking More Carefully at Parallel Lines

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-CO.D.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.</p>	<p>Geometry M1 Lessons 1–2: Construct an Equilateral Triangle</p> <p>Geometry M1 Lesson 31: Construct a Square and Nine-Point Circle</p> <p>Note: Supplemental material will need to be included to address constructing a regular hexagon inscribed in a circle.</p>
<p>Similarity, Right Triangles, and Trigonometry</p>	<p>Cluster A: Understand similarity in terms of similarity transformations.</p>	
	<p>G-SRT.A.1 Verify experimentally the properties of dilations given by a center and a scale factor:</p>	
	<p>a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.</p>	<p>Geometry M2 Topic A: Scale Drawings</p> <p>Geometry M2 Topic B: Dilations</p>
	<p>b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.</p>	<p>Geometry M2 Topic A: Scale Drawings</p> <p>Geometry M2 Topic B: Dilations</p>
<p>G-SRT.A.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.</p>	<p>Geometry M2 Topic C: Similarity and Dilations</p>	

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-SRT.A.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.</p>	<p>Geometry M2 Lesson 13: Properties of Similarity Transformations</p> <p>Geometry M2 Lesson 14: Similarity</p> <p>Geometry M2 Lesson 15: The Angle-Angle (AA) Criterion for Two Triangles to Be Similar</p>
	<p>Cluster B: Prove and apply theorems involving similarity.</p>	
	<p>G-SRT.B.4 Prove and apply theorems about triangles. <i>Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity; SAS similarity criteria; SSS similarity criteria; ASA similarity.</i></p>	<p>Geometry M2 Topic A: Scale Drawings</p> <p>Geometry M2 Topic B: Dilations</p> <p>Geometry M2 Topic D: Applying Similarity to Right Triangles</p>
	<p>G-SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.</p>	<p>Geometry M2 Topic C: Similarity and Dilations</p>
	<p>Cluster C: Define trigonometric ratios and solve problems involving right triangles.</p>	
	<p>G-SRT.C.6 Understand that by similarity, side ratios in right triangles, including special right triangles (30-60-90 and 45-45-90), are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.</p>	<p>Geometry M2 Lesson 25: Incredibly Useful Ratios</p> <p>Geometry M2 Lesson 26: The Definition of Sine, Cosine, and Tangent</p> <p>Geometry M2 Lesson 27: Sine and Cosine of Complementary Angles and Special Angles</p>

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-SRT.C.7 Explain and use the relationship between the sine and cosine of complementary angles.</p>	<p>Geometry M2 Lesson 27: Sine and Cosine of Complementary Angles and Special Angles</p>
	<p>G-SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.</p>	<p>Geometry M2 Topic E: Trigonometry</p>
Circles	<p>Cluster A: Understand and apply theorems about circles.</p>	
	<p>G-C.A.1 Prove that all circles are similar.</p>	<p>Geometry Module 2 Lesson 8: How Do Dilations Map Lines, Rays, and Circles? Geometry M5 Lesson 7: The Angle Measure of an Arc Note: While the lesson from Module 5 addresses the standard, the standard is further supported by the work in Module 2.</p>
	<p>G-C.A.2 Identify and describe relationships among inscribed angles, radii, and chords, including the following: <i>the relationship that exists between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; and a radius of a circle is perpendicular to the tangent where the radius intersects the circle.</i></p>	<p>Geometry M5 Topic A: Central and Inscribed Angles Geometry M5 Lesson 10: Unknown Length and Area Problems Geometry M5 Topic C: Secants and Tangents</p>

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-C.A.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.</p>	<p>Geometry M5 Topic A: Central and Inscribed Angles Geometry M5 Lesson 12: Tangent Segments Geometry M5 Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem</p>
	<p>Cluster B: Find arc lengths and areas of sectors of circles.</p>	
	<p>G-C.B.5 Use similarity to determine that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.</p>	<p>Geometry M5 Topic B: Arcs and Sectors</p>
Expressing Geometric Properties with Equations	<p>Cluster A: Translate between the geometric description and the equation for a conic section.</p>	
	<p>G-GPE.A.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.</p>	<p>Geometry M5 Topic D: Equations for Circles and Their Tangents</p>
	<p>Cluster B: Use coordinates to prove simple geometric theorems algebraically.</p>	
<p>G-GPE.B.4 Use coordinates to prove simple geometric theorems algebraically. <i>For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.</i></p>	<p>Geometry M4 Topic B: Perpendicular and Parallel Lines in the Cartesian Plane Geometry M4 Topic D: Partitioning and Extending Segments and Parameterization of Lines Geometry M5 Topic D: Equations for Circles and Their Tangents</p>	

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-GPE.B.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).</p>	<p>Geometry M4 Lesson 4: Designing a Search Robot to Find a Beacon</p> <p>Geometry M4 Topic B: Perpendicular and Parallel Lines in the Cartesian Plane</p>
	<p>G-GPE.B.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.</p>	<p>Geometry M4 Lesson 12: Dividing Segments Proportionately</p> <p>Geometry M4 Lesson 13: Analytic Proofs of Theorems Previously Proved by Synthetic Means</p>
	<p>G-GPE.B.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.</p>	<p>Geometry M4 Topic A: Rectangular and Triangular Regions Defined by Inequalities</p> <p>Geometry M4 Topic C: Perimeters and Areas of Polygonal Regions in the Cartesian Plane</p> <p>Geometry M5 Topic D: Equations for Circles and Their Tangents</p>
<p>Geometric Measurement and Dimension</p>	<p>Cluster A: Explain volume formulas and use them to solve problems.</p>	
	<p>G-GMD.A.1 Give an informal argument, e.g., dissection arguments, Cavalieri's principle, or informal limit arguments, for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.</p>	<p>Geometry M3 Lesson 4: Proving the Area of a Disk</p> <p>Geometry M3 Topic B: Volume</p>

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	<p>G-GMD.A.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.</p>	<p>Geometry M3 Topic B: Volume</p>
	<p>Cluster B: Visualize relationships between two-dimensional and three-dimensional objects.</p>	
	<p>G-GMD.B.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.</p>	<p>Geometry M3 Lesson 6: General Prisms and Cylinders and Their Cross-Sections</p> <p>Geometry M3 Lesson 7: General Pyramids and Cones and Their Cross-Sections</p> <p>Geometry M3 Lesson 12: The Volume Formula of a Sphere</p>
Modeling with Geometry	<p>Cluster A: Apply geometric concepts in modeling situations.</p>	
	<p>G-MG.A.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).</p>	<p>Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth</p> <p>Geometry M2 Lesson 20: How Far Away is the Moon?</p> <p>Geometry M4 Lesson 4: Designing a Search Robot to Find a Beacon</p>
	<p>G-MG.A.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).</p>	<p>Geometry M3 Topic B: Volume</p>

Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
	G-MG.A.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	Geometry M2 Lesson 2: Making Scale Drawings Using the Ratio Method

Conceptual Category	Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
Statistics and Probability	Conditional Probability and the Rules of Probability	Cluster A: Understand independence and conditional probability and use them to interpret data.	
		S-CP.A.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).	Algebra II M4 Topic A: Probability
		S-CP.A.2 Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Algebra II M4 Lesson 6: Probability Rules
		S-CP.A.3 Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A , and the conditional probability of B given A is the same as the probability of B .	Algebra II M4 Lesson 4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables Algebra II M4 Lesson 6: Probability Rules

Conceptual Category	Domain	Cluster and Standard	Aligned Components of <i>Eureka Math</i>
		<p>S-CP.A.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. <i>For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.</i></p>	<p>Algebra II M4 Lesson 2: Calculating Probabilities of Events Using Two-Way Tables</p> <p>Algebra II M4 Lessons 3–4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables</p>
		<p>S-CP.A.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. <i>For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.</i></p>	<p>Algebra II M4 Lesson 2: Calculating Probabilities of Events Using Two-Way Tables</p> <p>Algebra II M4 Lessons 3–4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables</p> <p>Algebra II M4 Lesson 6: Probability Rules</p>
		<p>Cluster B: Use the rules of probability to compute probabilities of compound events in a uniform probability model.</p>	
		<p>S-CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model</p>	<p>Algebra II M4 Lessons 3–4: Calculating Conditional Probabilities and Evaluating Independence Using Two-Way Tables</p>

**Conceptual
Category**

Domain

Cluster and Standard

Aligned Components of *Eureka Math*

		<p>S-CP.B.7 Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.</p>	Algebra II M4 Lesson 7: Probability Rules
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