Publisher: Edgenuity Inc.
Program Title: CA-Common Core Mathematics 8
Components: online courseware

Common Core State Standards with California Additions[1]
Standards Map for a Basic Grade-Level Program

Grade Eight – Mathematics

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	THE NUMBER SYSTEM					
	Know that there are numbers that are not rational, and approximate them by rational numbers.					
8.NS 1.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	Unit 11: Exploring Real Numbers	Unit 11: Finding Distance in the Coordinate Plane (Instruction, Frames 5-6, 11-12; Assignment, Frames 1, 3-5)			
8.NS 2.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). *For example, by truncating the decimal expansion of √2,*	Unit 11: Estimating and Comparing Square Roots				

[1] These standards were originally produced by the Common Core State Standards Initiative, a state-led effort coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. California additions were made by the State Board of Education when it adopted the Common Core on August 2, 2010 and modified pursuant to Senate Bill 1200 located at http://tinyurl.com/CASB1200 on January 16, 2013. Additions are marked in bold and underlined.

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.					
	EXPRESSIONS AND EQUATIONS					
	Work with radicals and integer exponents.					
8.EE 1.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	Unit 10: Zero and Negative Exponents, Powers with the Same Base, Raising a Power to a Power, Evaluating Expressions with Exponents				
8.EE 2.	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 positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	Unit 11: Finding the Hypotenuse in Right Triangles, Unknown Leg Lengths in Right Triangles, Converse to the Pythagorean Theorem				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Unit 12: Spherical and Cubic Volume Applications				
8.EE 3.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 × 10^8 and the population of the world as 7 × 10^9, and determine that the world population is more than 20 times larger.*	Unit 10: Introduction to Scientific Notation				
8.EE 4.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	Unit 10: Operations with Scientific Notation				
	Understand the connections between proportional relationships, lines, and linear equations.					
8.EE 5.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time*	Unit 2: Rate of Change and Introduction to Slope,				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	graph to a distance-time equation to determine which of two moving objects has greater speed.	Proportional Relationships, Graphing in a Variety of Contexts Unit 3: Comparing Slopes and Intercepts				
8.EE 6.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	Unit 9: Similar Triangles and Slope	Unit 2: Slope-Intercept Form (Instruction, Frames 8, 13-14, 16; Assignment (#2), Frames 1-8)			
	Understand the connections between proportional relationships, lines, and linear equations.					
8.EE 7a.	Solve linear equations in one variable. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers).	Unit 5: Analyzing Solutions				
8.EE 7b.	Solve linear equations in one variable. Solve	Unit 5:				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Solving with the Distributive Property, Solving Equations with Rational Numbers, Solving with Variables on Both Sides Unit 9: Solving for Unknown Angles in Triangles				
8.EE 8a.	Analyze and solve pairs of simultaneous linear equations. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	Unit 6: Exploring Systems of Linear Equations, Using Graphs to Determine the Number of Solutions				
8.EE 8b.	Analyze and solve pairs of simultaneous linear equations. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot	Unit 6: Estimating Solutions of Systems Unit 7: Finding the				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	simultaneously be 5 and 6.	Number of Solutions, Rewriting Equations to Use Substitution, Using Addition to Solve Systems, Multiplying One Equation to Solve Systems, Multiplying Two Equations to Solve Systems				
8.EE 8c.	Analyze and solve pairs of simultaneous linear equations. Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.	Unit 6: Writing and Solving Systems, Exploring Systems in the Real World Unit 7: Solving Systems with Fractions				
	FUNCTIONS					

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	Define, evaluate, and compare functions.					
8.F 1.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[2]	Unit 1: Introduction to Functions, Linear vs. Nonlinear Functions				
8.F 2.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*	Unit 3: Comparing Functions in the Real World	Unit 4: Comparing Data Sets (Instruction, Frames 4, 7; Assignment (#2), Frames 2, 8)			
8.F 3.	Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*	Unit 1: Linear vs. Nonlinear Functions Unit 2: Slope Intercept Form				
	Use functions to model relationships between quantities.					
8.F 4.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (*x*, *y*) values,	Unit 1: Tables, Graphs, and Equations	Unit 6: Writing and Solving Systems (Instruction, Frames 4, 9;			

[2] Function notation is not required in Grade 8.

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Unit 2: Standard Form Unit 3: Writing Linear Equations Given Two Points	Assignment, Frames 7, 9)			
8.F 5.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Unit 1: Interpreting Graphs				
	GEOMETRY					
	Understand congruence and similarity using physical models, transparencies, or geometry software.					
8.G 1a.	Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.	Unit 8: Congruence and Transformations				
8.G 1b.	Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.	Unit 8: Congruence and Transformations				
8.G 1c.	Verify experimentally the properties of	Unit 8:				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	rotations, reflections, and translations: Parallel lines are taken to parallel lines.	Congruence and Transformations				
8.G 2.	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Unit 8: Overview of Transformations, Congruence and Transformations				
8.G 3.	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Unit 8: Translations, Reflections, Rotations, Rotations in the Coordinate Plane, Dilations	Unit 8: Overview of Transformations (Assignment (#1), Frame 8; Instruction, Frames 3-5, 7)			
8.G 4.	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Unit: 8 Similarity and Transformations				
8.G 5.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of	Unit 9: Angle Relationships, Transversals, Parallel Lines	Unit 9: Solving for Unknown Angles in Triangles			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
	triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*	Cut by a Transversal, Sum of Interior Angles of a Triangle, Exterior Angles of a Triangle, Similar Triangles	(Instruction, Frames 2, 8; Assignment, Frame 5)			
	Understand and apply the Pythagorean Theorem.					
8.G 6.	Explain a proof of the Pythagorean Theorem and its converse.	Unit 11: Exploring Pythagorean Theorem	Unit 11: Converse to the Pythagorean Theorem (Instruction, Frame 2; Assignment, Frame 8)			
8.G 7.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Unit 11: Finding the Hypotenuse in Right Triangles, Unknown Leg Lengths in Right Triangles, Pythagorean Theorem in				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Three Dimensions				
8.G 8.	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Unit 11: Finding Distance in the Coordinate Plane				
	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.					
8.G 9.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Unit 12: Introduction to Volume of a Cylinder, Applications with the Volume of a Cylinder, Introduction to Volume of a Cone, Applications with the Volume of a Cone, Introduction to the Volume of a Sphere, Spherical and Cubic Volume				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Applications, Volume with Composite Figures				
	STATISTICS AND PROBABILITY					
	Investigate patterns of association in bivariate data.					
8.SP 1.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Unit 4: Constructing Scatterplots, Interpreting Clusters and Outliers, Exploring Association, Comparing Data Sets				
8.SP 2.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Unit 4: Drawing Trend Lines, Using Equations to Represent Trend Lines				
8.SP 3.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*	Unit 4: Making Predictions, Using Equations to Represent Trend Lines				

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
8.SP 4.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*	Unit 4: Making Two-Way Tables, Interpreting Two-Way Tables				
	MATHEMATICAL PRACTICES					
MP 1.	Make sense of problems and persevere in solving them.	Unit 1: Making Tables Unit 2: Graphing in a Variety of Contexts Unit 4: Comparing Data Sets Unit 5: Solving with Variables on Both Sides	Unit 4: Interpreting Two-Way Tables (Instruction, Frame 2; Assignment, Frame 3)			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Unit 12: Applications with Volume of a Cone				
MP 2.	Reason abstractly and quantitatively.	Unit 2: Slope Intercept Form Unit 4: Making Predictions Unit 10: Zero and Negative Exponents Unit 11: Finding the Hypotenuse in Right Triangles	Unit 4: Using Equations to Represent Trend Lines (Assignment (#2), Frame 6)			
MP 3.	Construct viable arguments and critique the reasoning of others.	Unit 1: Graphing on the Coordinate Plane Unit 2: Rate of Change and Introduction	Unit 11: Converse to the Pythagorean Theorem (Assignment, Frames 5, 8)			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		to Slope Unit 9: Exterior Angles of a Triangle Unit 10: Evaluating Expressions with Exponents				
MP 4.	Model with mathematics.	Unit 5: Equivalent Equations Unit 9: Transversals Unit 11: Pythagorean Theorem in Three Dimensions Unit 12: Applications with the Volume of a Cylinder	Unit 4: Interpreting Two-Way Tables (Instruction, Frames 2, 4-5; Assignment, Frames 1-3)			
MP 5.	Use appropriate tools strategically.	Unit 1: Using Technology	Unit 4: Drawing			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		to Explore Data Unit 4: Making Predictions Unit 5: Modeling with Variables on Both Sides Unit 6: Using Graphs to Determine the Number of Solutions Unit 7: Solving Systems with Fractions	Trend Lines (Instruction, Frames 11-13; Assignment (#1), Frame 8)			
MP 6.	Attend to precision.	Unit 3: Comparing Functions in the Real World Unit 9: Similar Triangles	Unit 8: Dilations in the Coordinate Plane (Instruction; Frames 10-11, 13-14; Assignment, Frames 4-5)			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Unit 10: Evaluating Expressions with Exponents Unit 12: Volume with Composite Figures				
MP 7.	Look for and make use of structure.	Unit 2: Proportional Relationships Unit 3: Comparing Slopes and Intercepts Unit 5: Equivalent Equations Unit 8: Congruence Unit 9: Similar Triangles and Slope	Unit 5: Using the Distributive Property (Instruction, Frame 8; Assignment (#1), Frame 2)			
MP 8.	Look for and express regularity in repeated reasoning.	Unit 7: Solving	Unit 10: Introduction to			

		Publisher Citations		Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**	**Primary Citations**	**Supporting Citations**	**Y**	**N**	**Reviewer Notes**
		Systems by Guess and Check Unit 8: Dilations Unit 10: Zero and Negative Exponents Unit 11: Exploring Real Numbers	Scientific Notation (Instruction, Frame 2-5; Assignment, Frames 2-3)			
Appendix						

