

# Hands-On Standards Deluxe

## Grades: 7, 8

### States: California Content Standards

Hands-On Standards Deluxe Edition Kit, Grades 5-6: Algebra  
 Summary: This resource guide meets 5 and 6 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Algebra section of Hands-On Standards Deluxe Edition covers the following skills and concepts: properties of addition and multiplication; distributive property; order of operations; expressions and equations with a variable; addition, subtraction, multiplication, and division equations; patterns and function tables; adding, subtracting, multiplying, and dividing integers; 4-quadrant graphing; and graphing linear equations. Click on the blue link above to view and read about the program components and manipulatives. (43045-3)

#### California Content Standards Mathematics Grade: 7

<b>CONTENT STANDARD</b>	<b>CA.NS.</b>	<b>Number Sense</b>
<b>PERFORMANCE STANDARD</b>	1.0.	Students know the properties of, and compute with, rational numbers expressed in a variety of forms.
<b>GRADE LEVEL EXPECTATION</b>	1.2.	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.
<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	1.0.	Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs.
<b>GRADE LEVEL EXPECTATION</b>	1.1.	Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number, half as large as area A).
<b>GRADE LEVEL EXPECTATION</b>	1.3.	Simplify numerical expressions by applying properties of rational numbers (e.g., identity, inverse, distributive, associative, commutative) and justify the process used.
<b>GRADE LEVEL EXPECTATION</b>	1.5.	Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in the situation represented by the graph.
<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	3.0.	Students graph and interpret linear and some nonlinear functions.
<b>GRADE LEVEL EXPECTATION</b>	3.3.	Graph linear functions, noting that the vertical change (change in y-value) per unit of horizontal change (change in x-value) is always the same and know that the ratio (rise over run) is called the slope of a graph.
<b>GRADE LEVEL EXPECTATION</b>	3.4.	Plot the values of quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the quantities.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	2.0.	Students use strategies, skills, and concepts in finding solutions.
<b>GRADE LEVEL EXPECTATION</b>	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
<b>GRADE LEVEL EXPECTATION</b>	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
<b>GRADE LEVEL EXPECTATION</b>	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	1.0.	Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable.
GRADE LEVEL EXPECTATION	1.1.	Students use properties of numbers to demonstrate whether assertions are true or false.
CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	6.0.	Students graph a linear equation and compute the x- and y-intercepts (e.g., graph $2x + 6y = 4$ ). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y$ is less than 4).
PERFORMANCE STANDARD	7.0.	Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.
CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
GRADE LEVEL EXPECTATION	25.2.	Students judge the validity of an argument according to whether the properties of the real number system and the order of operations have been applied correctly at each step.

Hands-On Standards Deluxe Edition Kit, Grades 5-6: Data Analysis and Probability  
 Summary: This resource guide meets 5 and 6 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Data Analysis and Probability section of Hands-On Standards Deluxe Edition covers the following skills and concepts: mean, median, mode, and range; make conjecture using a scatter plot; line graphs; circle graphs; counting principle; probability of an event; complementary and mutually exclusive events; probability of a compound event. Click on the blue link above to view and read about the program components and manipulatives. (43045-5)

California Content Standards

Mathematics

Grade: 7

CONTENT STANDARD	CA.SDAP.	Statistics, Data Analysis, and Probability
PERFORMANCE STANDARD	1.0.	Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program.
GRADE LEVEL EXPECTATION	1.2.	Represent two numerical variables on a scatterplot and informally describe how the data points are distributed and any apparent relationship that exists between the two variables

		(e.g., between time spent on homework and grade level).
GRADE LEVEL EXPECTATION	1.3.	Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	2.0.	Students use strategies, skills, and concepts in finding solutions.
GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
CONTENT STANDARD	CA.AII.	Algebra II
PERFORMANCE STANDARD	18.0.	Students use fundamental counting principles to compute combinations and permutations.
PERFORMANCE STANDARD	19.0.	Students use combinations and permutations to compute probabilities.
CONTENT STANDARD	CA.PS.	Probability and Statistics
PERFORMANCE STANDARD	1.0.	Students know the definition of the notion of independent events and can use the rules for addition, multiplication, and complementation to solve for probabilities of particular events in finite sample spaces.
PERFORMANCE STANDARD	3.0.	Students demonstrate an understanding of the notion of discrete random variables by using them to solve for the probabilities of outcomes, such as the probability of the occurrence of five heads in 14 coin tosses.
CONTENT STANDARD	CA.APPS.	Advanced Placement Probability and Statistics
PERFORMANCE STANDARD	1.0.	Students solve probability problems with finite sample spaces by using the rules for addition, multiplication, and complementation for probability distributions and understand the simplifications that arise with independent events.
PERFORMANCE STANDARD	3.0.	Students demonstrate an understanding of the notion of discrete random variables by using this concept to solve for the probabilities of outcomes, such as the probability of the occurrence of five or fewer heads in 14 coin tosses.
PERFORMANCE STANDARD	5.0.	Students know the definition of the mean of a discrete random variable and can determine the mean for a particular discrete random variable.
PERFORMANCE STANDARD	12.0.	Students find the line of best fit to a given distribution of data by using least squares regression.

## Hands-On Standards Deluxe Edition Kit, Grades 5-6: Geometry

Summary: This resource guide meets 5 and 6 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand.

Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Geometry section of Hands-On Standards Deluxe Edition covers the following skills and concepts: identifying, measuring, and classifying angles; angle sum for triangles; Triangle Inequality Theorem; identifying and classifying quadrilaterals; regular polygons; line symmetry; parallel and perpendicular lines; shapes in the coordinate plane; slides and flips; rotational symmetry; multiple transformations; tessellations; corresponding parts and congruent figures; similar triangles; nets; and three-dimensional figures. Click on the blue link above to view and read about the program components and manipulatives. (43045-2)

### California Content Standards

#### Mathematics

##### Grade: 7

CONTENT STANDARD	CA.MG.	Measurement and Geometry
PERFORMANCE STANDARD	3.0.	Students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and by identifying attributes of figures.
GRADE LEVEL EXPECTATION	3.2.	Understand and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine their image under translations and reflections.
GRADE LEVEL EXPECTATION	3.4.	Demonstrate an understanding of conditions that indicate two geometrical figures are congruent and what congruence means about the relationships between the sides and angles of the two figures.
GRADE LEVEL EXPECTATION	3.5.	Construct two-dimensional patterns for three-dimensional models, such as cylinders, prisms, and cones.
GRADE LEVEL EXPECTATION	3.6.	Identify elements of three-dimensional geometric objects (e.g., diagonals of rectangular solids) and describe how two or more objects are related in space (e.g., skew lines, the possible ways three planes might intersect).
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	2.0.	Students use strategies, skills, and concepts in finding solutions.
GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

##### Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE	25.0.	Students use properties of the number system to judge the validity of results, to

STANDARD		justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
CONTENT STANDARD	CA.G.	Geometry
PERFORMANCE STANDARD	5.0.	Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles.
PERFORMANCE STANDARD	6.0.	Students know and are able to use the triangle inequality theorem.
PERFORMANCE STANDARD	12.0.	Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
PERFORMANCE STANDARD	22.0.	Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.
CONTENT STANDARD	CA.T.	Trigonometry
PERFORMANCE STANDARD	1.0.	Students understand the notion of angle and how to measure it, in both degrees and radians. They can convert between degrees and radians.

Hands-On Standards Deluxe Edition Kit, Grades 5-6: Measurement  
 Summary: This resource guide meets 5 and 6 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Measurement section of Hands-On Standards Deluxe Edition covers the following skills and concepts: standard units and precision; perimeter and area; surface area; volume; and circumference. Click on the blue link above to view and read about the program components and manipulatives. (43045-4)

**California Content Standards  
 Mathematics  
 Grade: 7**

CONTENT STANDARD	CA.MG.	Measurement and Geometry
PERFORMANCE STANDARD	2.0.	Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale.
GRADE LEVEL EXPECTATION	2.1.	Use formulas routinely for finding the perimeter and area of basic two-dimensional figures and the surface area and volume of basic three-dimensional figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, and cylinders.
GRADE LEVEL EXPECTATION	2.3.	Compute the length of the perimeter, the surface area of the faces, and the volume of a three-dimensional object built from rectangular solids. Understand that when the lengths of all dimensions are multiplied by a scale factor, the surface area is multiplied by the square of the scale factor and the volume is multiplied by the cube of the scale factor.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	2.0.	Students use strategies, skills, and concepts in finding solutions.
GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.

<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.1.</b>	Evaluate the reasonableness of the solution in the context of the original situation.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.2.</b>	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

<b>CONTENT STANDARD</b>	<b>CA.AI.</b>	<b>Algebra I</b>
<b>PERFORMANCE STANDARD</b>	<b>25.0.</b>	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
<b>GRADE LEVEL EXPECTATION</b>	<b>25.1.</b>	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
<b>CONTENT STANDARD</b>	<b>CA.G.</b>	<b>Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>8.0.</b>	Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
<b>PERFORMANCE STANDARD</b>	<b>9.0.</b>	Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.
<b>PERFORMANCE STANDARD</b>	<b>10.0.</b>	Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.
<b>PERFORMANCE STANDARD</b>	<b>11.0.</b>	Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.

Hands-On Standards Deluxe Edition Kit, Grades 5-6: Number and Operations  
 Summary: This resource guide meets math curriculum standards for grades 5 and 6 by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Number and Operations section of Hands-On Standards Deluxe Edition covers the following skills and concepts: fractions; fractional parts of a fraction; equivalent fractions; decimals; comparing and ordering fractions and decimals; percents; mixed numbers; factors, prime, and prime factorization; squares and square roots; adding and subtracting fractions with unlike denominators; multiplying with fractions; division; dividing fractions; multiplying and dividing decimals; ratios; and proportions. Click on the blue link above to view and read about the program components and manipulatives. (43045-1)

**California Content Standards  
 Mathematics  
 Grade: 7**

<b>CONTENT STANDARD</b>	<b>CA.NS.</b>	<b>Number Sense</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students know the properties of, and compute with, rational numbers expressed in a variety of forms.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.1.</b>	Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10), compare rational numbers in general.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.2.</b>	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.3.</b>	Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.

GRADE LEVEL EXPECTATION	1.5.	Know that every rational number is either a terminating or repeating decimal and be able to convert terminating decimals into reduced fractions.
CONTENT STANDARD	CA.NS.	Number Sense
PERFORMANCE STANDARD	2.0.	Students use exponents, powers, and roots and use exponents in working with fractions.
GRADE LEVEL EXPECTATION	2.2.	Add and subtract fractions by using factoring to find common denominators.
CONTENT STANDARD	CA.AF.	Algebra and Functions
PERFORMANCE STANDARD	2.0.	Students interpret and evaluate expressions involving integer powers and simple roots.
GRADE LEVEL EXPECTATION	2.1.	Interpret positive whole-number powers as repeated multiplication and negative whole-number powers as repeated division or multiplication by the multiplicative inverse. Simplify and evaluate expressions that include exponents.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	2.0.	Students use strategies, skills, and concepts in finding solutions.
GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	2.0.	Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.
CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.

Hands-On Standards Deluxe Edition Kit, Grades 7-8: Algebra

Summary: This resource guide meets Grades 7 and 8 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Algebra section of Hands-On Standards Deluxe Edition covers the following skills and concepts: linear functions; variables  $x$ ,  $x$ -squared, and constants; combining like

terms; slope as a rate of change; lines in slope-intercept form; problem solving with rates of change; symbolic algebra; algebraic equivalencies: distributive property and FOIL method; solving linear and nonlinear equations; solving systems of equations; problem solving: two-step linear equations and multiple-step nonlinear equations; linear relationships; and writing equations. Click on the blue link above to view and read about the program components and manipulatives. (43046-3)

**California Content Standards  
Mathematics  
Grade: 7**

<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students express quantitative relationships by using algebraic terminology, expressions, equations, inequalities, and graphs.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.1.</b>	Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number, half as large as area A).
<b>GRADE LEVEL EXPECTATION</b>	<b>1.2.</b>	Use the correct order of operations to evaluate algebraic expressions such as $3(2x + 5)^2$ .
<b>GRADE LEVEL EXPECTATION</b>	<b>1.5.</b>	Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in the situation represented by the graph.
<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students graph and interpret linear and some nonlinear functions.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.1.</b>	Graph functions of the form $y = nx$ to the power of 2 and $y = nx$ to the power of 3 and use in solving problems.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.3.</b>	Graph linear functions, noting that the vertical change (change in y-value) per unit of horizontal change (change in x-value) is always the same and know that the ratio (rise over run) is called the slope of a graph.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.4.</b>	Plot the values of quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the quantities.
<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	<b>4.0.</b>	Students solve simple linear equations and inequalities over the rational numbers.
<b>GRADE LEVEL EXPECTATION</b>	<b>4.1.</b>	Solve two-step linear equations and inequalities in one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students use strategies, skills, and concepts in finding solutions.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.3.</b>	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.5.</b>	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.6.</b>	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.8.</b>	Make precise calculations and check the validity of the results from the context of the problem.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.1.</b>	Evaluate the reasonableness of the solution in the context of the original situation.

GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
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Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	5.0.	Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
PERFORMANCE STANDARD	6.0.	Students graph a linear equation and compute the x- and y-intercepts (e.g., graph $2x + 6y = 4$ ). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y$ is less than 4).
PERFORMANCE STANDARD	7.0.	Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.
PERFORMANCE STANDARD	9.0.	Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.
PERFORMANCE STANDARD	10.0.	Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.
PERFORMANCE STANDARD	21.0.	Students graph quadratic functions and know that their roots are the x-intercepts.
CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
CONTENT STANDARD	CA.AII.	Algebra II
PERFORMANCE STANDARD	2.0.	Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.
PERFORMANCE STANDARD	3.0.	Students are adept at operations on polynomials, including long division.
PERFORMANCE STANDARD	8.0.	Students solve and graph quadratic equations by factoring, completing the square, or using the quadratic formula. Students apply these techniques in solving word problems. They also solve quadratic equations in the complex number system.
PERFORMANCE STANDARD	9.0.	Students demonstrate and explain the effect that changing a coefficient has on the graph of quadratic functions; that is, students can determine how the graph of a parabola changes as $a$ , $b$ , and $c$ vary in the equation $y = a(x-b)^2+c$ .
PERFORMANCE STANDARD	10.0.	Students graph quadratic functions and determine the maxima, minima, and zeros of the function.
PERFORMANCE STANDARD	25.0.	Students use properties from number systems to justify steps in combining and simplifying functions.
CONTENT STANDARD	CA.LA.	Linear Algebra
PERFORMANCE STANDARD	6.0.	Students demonstrate an understanding that linear systems are inconsistent (have no solutions), have exactly one solution, or have infinitely many solutions.
PERFORMANCE STANDARD	8.0.	Students interpret geometrically the solution sets of systems of equations. For example, the solution set of a single linear equation in two variables is interpreted as a line in the plane, and the solution set of a two-by-two system is interpreted as the intersection of a pair of lines in the plane.

Hands-On Standards Deluxe Edition Kit, Grades 7-8: Data Analysis and Probability  
 Summary: This resource guide meets Grades 7 and 8 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by

strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Data Analysis and Probability section of Hands-On Standards Deluxe Edition covers the following skills and concepts: population sampling; measures of central tendency; histograms, circle graphs, and percentages; finding probability without replacement; fair and unfair spinners; simple compound events; theoretical vs. experimental probability game; mutually exclusive events; build a spinner; scatter plot diagrams; and line of best fit. Click on the blue link above to view and read about the program components and manipulatives. (43046-5)

**California Content Standards  
Mathematics  
Grade: 7**

CONTENT STANDARD	CA.SDAP.	Statistics, Data Analysis, and Probability
PERFORMANCE STANDARD	1.0.	Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program.
GRADE LEVEL EXPECTATION	1.2.	Represent two numerical variables on a scatterplot and informally describe how the data points are distributed and any apparent relationship that exists between the two variables (e.g., between time spent on homework and grade level).
GRADE LEVEL EXPECTATION	1.3.	Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	2.0.	Students use strategies, skills, and concepts in finding solutions.
GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

**Grade: 8**

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
CONTENT STANDARD	CA.PS.	Probability and Statistics
PERFORMANCE STANDARD	1.0.	Students know the definition of the notion of independent events and can use the rules for addition, multiplication, and complementation to solve for probabilities of particular events in finite sample spaces.
PERFORMANCE STANDARD	3.0.	Students demonstrate an understanding of the notion of discrete random variables by using them to solve for the probabilities of outcomes, such as the

		probability of the occurrence of five heads in 14 coin tosses.
<b>CONTENT STANDARD</b>	<b>CA.APPS.</b>	<b>Advanced Placement Probability and Statistics</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students solve probability problems with finite sample spaces by using the rules for addition, multiplication, and complementation for probability distributions and understand the simplifications that arise with independent events.
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students demonstrate an understanding of the notion of discrete random variables by using this concept to solve for the probabilities of outcomes, such as the probability of the occurrence of five or fewer heads in 14 coin tosses.
<b>PERFORMANCE STANDARD</b>	<b>5.0.</b>	Students know the definition of the mean of a discrete random variable and can determine the mean for a particular discrete random variable.
<b>PERFORMANCE STANDARD</b>	<b>12.0.</b>	Students find the line of best fit to a given distribution of data by using least squares regression.

### Hands-On Standards Deluxe Edition Kit, Grades 7-8: Geometry

Summary: This resource guide meets Grades 7 and 8 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Geometry section of Hands-On Standards Deluxe Edition covers the following skills and concepts: properties of geometric shapes; Triangle Sum Theorem; sides and angles; area; sums of interior angles; prisms, pyramids, and cylinders; drawing a net; volume; parallel lines intersected by a transversal; Euler's Polyhedron Formula; Pythagorean Theorem; flips, slides, and turns; and dilations. Click on the blue link above to view and read about the program components and manipulatives. (43046-2)

### California Content Standards Mathematics Grade: 7

<b>CONTENT STANDARD</b>	<b>CA.MG.</b>	<b>Measurement and Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.1.</b>	Use formulas routinely for finding the perimeter and area of basic two-dimensional figures and the surface area and volume of basic three-dimensional figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, and cylinders.
<b>CONTENT STANDARD</b>	<b>CA.MG.</b>	<b>Measurement and Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and by identifying attributes of figures.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.2.</b>	Understand and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine their image under translations and reflections.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.3.</b>	Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.5.</b>	Construct two-dimensional patterns for three-dimensional models, such as cylinders, prisms, and cones.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.6.</b>	Identify elements of three-dimensional geometric objects (e.g., diagonals of rectangular solids) and describe how two or more objects are related in space (e.g., skew lines, the possible ways three planes might intersect).
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students use strategies, skills, and concepts in finding solutions.

GRADE LEVEL EXPECTATION	2.3.	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
GRADE LEVEL EXPECTATION	2.5.	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
GRADE LEVEL EXPECTATION	2.6.	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
GRADE LEVEL EXPECTATION	2.8.	Make precise calculations and check the validity of the results from the context of the problem.
CONTENT STANDARD	CA.MR.	Mathematical Reasoning
PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
CONTENT STANDARD	CA.G.	Geometry
PERFORMANCE STANDARD	7.0.	Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
PERFORMANCE STANDARD	8.0.	Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
PERFORMANCE STANDARD	9.0.	Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.
PERFORMANCE STANDARD	12.0.	Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
PERFORMANCE STANDARD	14.0.	Students prove the Pythagorean theorem.
PERFORMANCE STANDARD	15.0.	Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles.
PERFORMANCE STANDARD	22.0.	Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.

Hands-On Standards Deluxe Edition Kit, Grades 7-8: Measurement

Summary: This resource guide meets Grades 7 and 8 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Measurement section of Hands-On Standards Deluxe Edition covers the following skills and concepts: area of trapezoids and irregular figures; constant perimeter and changing area; perimeter of irregular shapes; triangles: angles and the sides opposite them; and Triangle Inequality Theorem. Click on the blue link above to view and read about the program components and manipulatives. (43046-4)

**Mathematics**

**Grade: 7**

<b>CONTENT STANDARD</b>	<b>CA.MG.</b>	<b>Measurement and Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.1.</b>	Use formulas routinely for finding the perimeter and area of basic two-dimensional figures and the surface area and volume of basic three-dimensional figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, and cylinders.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.2.</b>	Estimate and compute the area of more complex or irregular two- and three-dimensional figures by breaking the figures down into more basic geometric objects.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students use strategies, skills, and concepts in finding solutions.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.3.</b>	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.5.</b>	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.6.</b>	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.8.</b>	Make precise calculations and check the validity of the results from the context of the problem.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>3.0.</b>	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.1.</b>	Evaluate the reasonableness of the solution in the context of the original situation.
<b>GRADE LEVEL EXPECTATION</b>	<b>3.2.</b>	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

**Grade: 8**

<b>CONTENT STANDARD</b>	<b>CA.AI.</b>	<b>Algebra I</b>
<b>PERFORMANCE STANDARD</b>	<b>25.0.</b>	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
<b>GRADE LEVEL EXPECTATION</b>	<b>25.1.</b>	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
<b>CONTENT STANDARD</b>	<b>CA.G.</b>	<b>Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>6.0.</b>	Students know and are able to use the triangle inequality theorem.
<b>PERFORMANCE STANDARD</b>	<b>8.0.</b>	Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
<b>PERFORMANCE STANDARD</b>	<b>10.0.</b>	Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.
<b>PERFORMANCE STANDARD</b>	<b>11.0.</b>	Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.
<b>CONTENT STANDARD</b>	<b>CA.T.</b>	<b>Trigonometry</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students understand the notion of angle and how to measure it, in both degrees and radians. They can convert between degrees and radians.

Hands-On Standards Deluxe Edition Kit, Grades 7-8: Number and Operations  
 Summary: This resource guide meets Grades 7 and 8 math curriculum standards by matching activities to instructional objectives with ready-to-use, full-color lesson plans organized by strand. Lessons use hands-on activities, incorporating manipulatives into instruction, to build concrete understanding and connect concepts to students' growing background of real-world experiences. The Number and Operations section of Hands-On Standards Deluxe Edition covers the following skills and concepts: converting fractions, decimals, and percentages; fraction, decimal, and percentage combinations that equal 1; estimating fractional numbers; comparing rational numbers; ratio and proportion; approximating square roots; scale factor; and adding, subtracting, multiplying, and dividing integers. Click on the blue link above to view and read about the program components and manipulatives. (43046-1)

**California Content Standards  
 Mathematics  
 Grade: 7**

<b>CONTENT STANDARD</b>	<b>CA.NS.</b>	<b>Number Sense</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students know the properties of, and compute with, rational numbers expressed in a variety of forms.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.1.</b>	Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10), compare rational numbers in general.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.2.</b>	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.
<b>CONTENT STANDARD</b>	<b>CA.NS.</b>	<b>Number Sense</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students use exponents, powers, and roots and use exponents in working with fractions.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.4.</b>	Use the inverse relationship between raising to a power and extracting the root of a perfect square integer; for an integer that is not square, determine without a calculator the two integers between which its square root lies and explain why.
<b>CONTENT STANDARD</b>	<b>CA.AF.</b>	<b>Algebra and Functions</b>
<b>PERFORMANCE STANDARD</b>	<b>4.0.</b>	Students solve simple linear equations and inequalities over the rational numbers.
<b>GRADE LEVEL EXPECTATION</b>	<b>4.2.</b>	Solve multistep problems involving rate, average speed, distance, and time or a direct variation.
<b>CONTENT STANDARD</b>	<b>CA.MG.</b>	<b>Measurement and Geometry</b>
<b>PERFORMANCE STANDARD</b>	<b>1.0.</b>	Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems.
<b>GRADE LEVEL EXPECTATION</b>	<b>1.3.</b>	Use measures expressed as rates (e.g., speed, density) and measures expressed as products (e.g., person-days) to solve problems; check the units of the solutions; and use dimensional analysis to check the reasonableness of the answer.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>
<b>PERFORMANCE STANDARD</b>	<b>2.0.</b>	Students use strategies, skills, and concepts in finding solutions.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.3.</b>	Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.5.</b>	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.6.</b>	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
<b>GRADE LEVEL EXPECTATION</b>	<b>2.8.</b>	Make precise calculations and check the validity of the results from the context of the problem.
<b>CONTENT STANDARD</b>	<b>CA.MR.</b>	<b>Mathematical Reasoning</b>

PERFORMANCE STANDARD	3.0.	Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.
GRADE LEVEL EXPECTATION	3.1.	Evaluate the reasonableness of the solution in the context of the original situation.
GRADE LEVEL EXPECTATION	3.2.	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

Grade: 8

CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	2.0.	Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.
CONTENT STANDARD	CA.AI.	Algebra I
PERFORMANCE STANDARD	25.0.	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements.
GRADE LEVEL EXPECTATION	25.1.	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.