Virginia State Standards
correlated to
Merit Software Math Programs

Adopted in November 2002 by the state Board of Education, the Standards of Learning set reasonable targets and expectations for what teachers need to teach and students need to learn. The standards are not intended to encompass the entire curriculum for a given grade level or course or to prescribe how the content should be taught; the standards are to be incorporated into a broader, locally designed curriculum. Teachers are encouraged to go beyond the standards and select instructional strategies and assessment methods appropriate for their students.

Merit's math programs address the following Virginia Standards:

Grade 3

Subhead	Standard	Merit Software
Number and Number Sense	3.1 The student will read and write six-digit numerals and identify the place value for each digit.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	3.2 The student will round a whole number, 9,999 or less, to the nearest ten, hundred, and thousand.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	3.3 The student will compare two whole numbers between 0 and 9,999, using symbols (>, <, or =) and words (greater than, less than, or equal to).	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	3.4 The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. Students will use these relationships to solve problems such as 5 + 3 = 8 and 8 – 3 = ____.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Number and Number Sense	3.5 The student will a) divide regions and sets to represent a fraction; and b) name and write the fractions represented by a given model (area/region length/measurement, and set). Fractions (including mixed numbers) will include halves, thirds, fourths, eighths, and tenths.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	3.6 The student will compare the numerical value of two fractions having like and unlike denominators, using concrete or pictorial models involving areas/regions, lengths/measurements, and sets.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	3.7 The student will read and write decimals expressed as tenths and hundredths, using concrete materials and models.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Computation and Estimation	3.8 The student will solve problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping, using various computational methods, including calculators, paper and pencil, mental computation, and estimation	Word Problem Shape-Up Set 1, 2, 3
Computation and Estimation	3.9 The student will recall the multiplication and division facts through the nines table.	Word Problem Shape-Up Set 1, 2, 3
Computation and Estimation	3.10 The student will represent multiplication and division, using area and set models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.	Word Problem Shape-Up Set 1, 2, 3
Computation and Estimation	3.11 The student will add and subtract with proper fractions having like denominators of 10 or less, using concrete materials and pictorial models representing areas/regions, lengths/measurements, and sets.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Computation and Estimation	3.12 The student will add and subtract with decimals expressed as tenths, using concrete materials, pictorial representations, and paper and pencil.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Measurement	3.14 The student will estimate and then use actual measuring devices with metric and U.S. Customary units to measure: a) length — inches, feet, yards, centimeters, and meters; b) liquid volume — cups, pints, quarts, gallons, and liters; and c) weight/mass — ounces, pounds, grams, and kilograms.	Word Problem Shape-Up Set 1, 2, 3

Probability and Statistics	3.21 The student, given grid paper, will a) collect and organize data on a given topic of his/her choice, using observations, measurements, surveys, or experiments; and b) construct a line plot, a picture graph, or a bar graph to represent the results. Each graph will include an appropriate title and key.	Word Problem Shape-Up Set 1, 2, 3
Probability and Statistics	3.22 The student will read and interpret data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data.	Word Problem Shape-Up Set 1, 2, 3
Probability and Statistics	3.23 The student will investigate and describe the concept of probability as chance and list possible results of a given situation.	Word Problem Shape-Up Set 1, 2, 3
Patterns, Functions, and Algebra	3.24 The student will recognize and describe a variety of patterns formed using concrete objects, numbers, tables, and pictures, and extend the pattern, using the same or different forms (concrete objects, numbers, tables, and pictures).	Word Problem Shape-Up Set 1, 2, 3
Patterns, Functions, and Algebra	3.25 The student will a) investigate and create patterns involving numbers, operations (addition and multiplication), and relations that model the identity and commutative properties for addition and multiplication; and b) demonstrate an understanding of equality by recognizing that the equal sign (=) links equivalent quantities, such as 4 • 3 = 2 • 6.	Word Problem Shape-Up Set 1, 2, 3

Grade 4

Subhead	Standard	Merit Software
Number and Number Sense	4.2 The student will a) identify, model, and compare rational numbers (fractions and mixed numbers), using concrete objects and pictures; b) represent equivalent fractions; and c) relate fractions to decimals, using concrete objects.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	4.3 The student will compare the numerical value of fractions (with like and unlike denominators) having denominators of 12 or less, using concrete materials.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	4.4 The student will a) read, write, represent, and identify decimals expressed through thousandths; b) round to the nearest whole number, tenth, and hundredth; and c) compare the value of two decimals, using symbols (<, >, or =), concrete materials, drawings, and calculators.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Computation and Estimation	4.5 The student will estimate whole-number sums and differences and describe the method of estimation. Students will refine estimates, using terms such as *closer to, between,* and *a little more than.*	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Computation and Estimation	4.7 The student will find the product of two whole numbers when one factor has two digits or fewer and the other factor has three digits or fewer, using estimation and paper and pencil. For larger products (a two-digit numeral times a three-digit numeral) estimation and calculators will be used.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Computation and Estimation	4.8 The student will estimate and find the quotient of two whole numbers, given a one-digit divisor.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Computation and Estimation	4.9 The student will a) add and subtract with fractions having like and unlike denominators of 12 or less, using concrete materials, pictorial representations, and paper and pencil; b) add and subtract with decimals through thousandths, using concrete materials, pictorial representations, and paper and pencil; and c) solve problems involving addition and subtraction with fractions having like and unlike denominators of 12 or less and with decimals expressed through thousandths, using various computational methods, including calculators, paper and pencil, mental computation, and estimation.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Measurement	4.10 The student will a) estimate and measure weight/mass, using actual measuring devices, and describe the results in U.S. Customary/metric units as appropriate, including ounces, pounds, grams, and kilograms; b) identify equivalent measurements between units within the U.S. Cusomary system (ounces and pounds) and between units within the metric system (grams and kilograms); and c) estimate the conversion of ounces and grams and pounds and kilograms, using approximate comparisons (1 ounce is about 28 grams, or 1 gram is about the weight of a paper clip; 1 kilogram is a little more than 2 pounds).	Word Problem Shape-Up Set 1, 2, 3
Measurement	4.11 The student will a) estimate and measure length, using actual measuring devices, and describe the results in both metric and U.S. Customary units, including part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, millimeters, centimeters, and meters; b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters); and c) estimate the conversion of inches and centimeters, yards and meters, and miles and kilometers, using approximate comparisons (1 inch is about 2.5 centimeters, 1 meter is a little longer than 1 yard, 1 mile is slightly farther than 1.5 kilometers, or 1 kilometer is slightly farther than half a mile).	Word Problem Shape-Up Set 1, 2, 3

Measurement	4.12 The student will a) estimate and measure liquid volume, using actual measuring devices and using metric and U.S. Customary units, including cups, pints, quarts, gallons, milliliters, and liters; b) identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons) and between units within the metric system (milliliters and liters); and c) estimate the conversion of quarts and liters, using approximate comparisons (1 quart is a little less than 1 liter, 1 liter is a little more than 1 quart).	Word Problem Shape-Up Set 1, 2, 3
Probability and Statistics	4.19 The student will a) predict the likelihood of outcomes of a simple event, using the terms *certain, likely, unlikely, impossible;* and b) determine the probability of a given simple event, using concrete materials.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	4.20 The student will collect, organize, and display data in line and bar graphs will scale increments of one or greater than one and use the display to interpret the results, draw conclusions, and make predictions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	4.21 The student will recognize, create, and extend numerical and geometric patterns, using concrete materials, number lines, symbols, tables, and words.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 5

Subhead	Standard	Merit Software
Number and Number Sense	5.1 The student will c) compare the value of two decimals through ten-thousandths using the symbols >, <, or =.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Number and Number Sense	5.2 The student will a) recognize and name commonly used fractions (halves, fourths, fifths, eighths, and tenths) in their equivalent decimal form and vice versa; and b) order a given set of fractions and decimals from least to greatest. Fractions will include like and unlike denominators limited to 12 or less, and mixed numbers.	Fraction Shape-Up
Computation and Estimation	5.3 The student will create and solve problems involving addition, subtraction, multiplication, and division of whole numbers, using paper and pencil, estimation, mental computation, and calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	5.7 The student will add and subtract with fractions and mixed numerals, with and without regrouping, and express answers in simplest form. Problems will include like and unlike denominators, limited to 12 or less.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	5.8 The student will describe and determine the perimeter of a polygon and the area of a square, rectangle, and triangle, given the appropriate measures.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Measurement	5.10 The student will differentiate between area and perimeter and identify whether the application of the concept of perimeter or area is appropriate for a given situation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	5.11 The student will choose an appropriate measuring device and unit of measure to solve problems involving measurement of length-part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, miles, millimeters, centimeters, meters, and kilometers; weight/mass-ounces, pounds, tons, grams, and kilograms; liquid volume-cups, pints, quarts, gallons, milliliters, and liters; area-square units; and temperature-Celsius and Fahrenheit units. Problems also will include estimating the conversion of Celsius and Fahrenheit units relative to familiar situations (water freezes at 0°C and 32°F, water boils at 100°C and 212°F, normal body temperature is about 37°C and 98.6°F).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	5.16 The student will solve problems involving the probability of a single event by using tree diagrams or by constructing a sample space representing all possible results; and create a problem statement involving probability based on information from a given problem situation. Students will not be required to solve the problem created.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	5.17 The student will collect, organize, and display a set of numerical data in a variety of forms, given a problem situation, using bar graphs, stem-and-leaf plots, and line graphs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	5.18 The student will find the mean and mode of a set of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	5.20 The student will investigate and describe the concept of variable; use a variable to represent a given verbal quantitative expression, involving one operation; and write an open sentence, using a variable to represent a given mathematical relationship.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	5.21 The student will create a problem situation based on a given open sentence using a single variable.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 6

Subhead	Standard	Merit Software
Number and Number Sense	6.2 The student will describe and compare two sets of data using ratios and will use appropriate notations such as a/b, a to b, and a:b.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Number and Number Sense	6.5 The student will identify and represent integers on a number line.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	6.6 The student will solve problems that involve addition, subtraction, and/or multiplication with fractions and mixed numbers, with and without regrouping, that include like and unlike denominators of 12 or less and express their answers in simplest form; and find the quotient, given a dividend expressed as a decimal through thousandths and a divisor expressed as a decimal to thousandths with exactly one non-zero digit. For divisors with more than one non-zero digit, estimation and calculators will be used.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	6.7 The student will use estimation strategies to solve multistep practical problems involving whole numbers, decimals, and fractions.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	6.8 The student will solve multistep consumer application problems involving fractions and decimals and present data and conclusions in paragraphs, tables, or graphs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	6.9 The student will compare and convert units of measures for length, weight/mass, and volume within the U.S. Customary system and within the metric system and estimate conversions between units in each system: length-part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, miles, millimeters, centimeters, meters, and kilometers; weight/mass-ounces, pounds, tons, grams, and kilograms; liquid volume-cups, pints, quarts, gallons, milliliters, and liters; and area-square units.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	6.10 The student will estimate and then determine length, weight/mass, area, and liquid volume/capacity, using standard and nonstandard units of measure.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	6.11 The student will determine if a problem situation involving polygons of four sides or less represents the application of perimeter or area and apply the appropriate formula.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	6.18 The student, given a problem situation, will collect, analyze, display, and interpret data in a variety of graphical methods, including line, bar, and circle graphs and stem-and-leaf and box-and-whisker plots. Circle graphs will be limited to halves, fourths, and eighths.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	6.19 The student will describe the mean, median, and mode as measures of central tendency and determine their meaning for a set of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Probability and Statistics	6.20 The student will determine and interpret the probability of an event occurring from a given sample space.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	6.21 The student will recognize, describe, and extend a variety of numerical and geometric patterns.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	6.23 The student will model and solve algebraic equations, using concrete materials; and solve one-step linear equations in one variable, involving whole number coefficients and positive rational solutions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 7

Subhead	Standard	Merit Software
Number and Number Sense	7.1 The student will compare, order, and determine equivalent relationships between fractions, decimals, and percents, including use of scientific notation for numbers greater than 10.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	7.2 The student will simplify expressions that contain rational numbers (whole numbers, fractions, and decimals) and positive exponents, using order of operations, mental mathematics, and appropriate tools.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	7.3 The student will identify and apply the following properties of operations with real numbers: a) the commutative and associative properties for addition and multiplication; b) the distributive property; c) the additive and multiplicative identity properties; d) the additive and multiplicative inverse properties; and e) the multiplicative property of zero.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	7.4 The student will a) solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents; and b) solve consumer-application problems involving tips, discounts, sales tax, and simple interest.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	7.5 The student will formulate rules for and solve practical problems involving basic operations (addition, subtraction, multiplication, and division) with integers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	7.16 The student will create and solve problems involving the measures of central tendency (mean, median, mode) and the range of a set of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Computation and Estimation	7.17 The student, given a problem situation, will collect, analyze, display, and interpret data, using a variety of graphical methods, including a) frequency distributions; b) line plots; c) histograms; d) stem-and-leaf plots; e) box-and-whisker plots; and f) scattergrams.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	7.18 The student will make inferences, conjectures, and predictions based on analysis of a set of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Computation and Estimation	7.22 The student will a) solve one-step linear equations and inequalities in one variable with strategies involving inverse operations and integers, using concrete materials, pictorial representations, and paper and pencil; and b) solve practical problems requiring the solution of a one-step linear equation.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2

Grade 8

Subhead	Standard	Merit Software
Number and Number Sense	8.1 The student will a) simplify numerical expressions involving positive exponents, using rational numbers, order of operations, and properties of operations with real numbers; b) recognize, represent, compare, and order numbers expressed in scientific notation; and c) compare and order decimals, fractions, percents, and numbers written in scientific notation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	8.2 The student will describe orally and in writing the relationship between the subsets of the real number system.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	8.3 The student will solve practical problems involving rational numbers, percents, ratios, and proportions. Problems will be of varying complexities and will involve real-life data, such as finding a discount and discount prices and balancing a checkbook.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	8.4 The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables. Problems will be limited to positive exponents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number and Number Sense	8.5 The student, given a whole number from 0 to 100, will identify it as a perfect square or find the two consecutive whole numbers between which the square root lies.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Number and Number Sense	8.7 The student will investigate and solve practical problems involving volume and surface area of rectangular solids (prisms), cylinders, cones, and pyramids.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	8.11 The student will analyze problem situations, including games of chance, board games, or grading scales, and make predictions, using knowledge of probability.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Probability and Statistics	8.12 The student will make comparisons, predictions, and inferences, using information displayed in frequency distributions; box-and-whisker plots; scattergrams; line, bar, circle, and picture graphs; and histograms.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	8.14 The student will a) describe and represent relations and functions, using tables, graphs, and rules; and b) relate and compare tables, graphs, and rules as different forms of representation for relationships.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, Functions, and Algebra	8.15 The student will solve two-step equations and inequalities in one variable, using concrete materials, pictorial representations, and paper and pencil.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grades 9-12

Subhead	Standard	Merit Software
Algebra I	A.2 The student will represent verbal quantitative situations algebraically and evaluate these expressions for given replacement values of the variables. Students will choose an appropriate computational technique, such as mental mathematics, calculator, or paper and pencil.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra I	A.3 The student will justify steps used in simplifying expressions and solving equations and inequalities. Justifications will include the use of concrete objects; pictorial representations; and the properties of real numbers, equality, and inequality.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra I	A.4 The student will use matrices to organize and manipulate data, including matrix addition, subtraction, and scalar multiplication. Data will arise from business, industrial, and consumer situations.	Word Problem Shape-Up Set 1, 2, 3
Algebra I	A.5 The student will create and use tabular, symbolic, graphical, verbal, and physical representations to analyze a given set of data for the existence of a pattern, determine the domain and range of relations, and identify the relations that are functions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra I	A.6 The student will select, justify, and apply an appropriate technique to graph linear functions and linear inequalities in two variables. Techniques will include slope-intercept, x- and y-intercepts, graphing by transformation, and the use of the graphing calculator.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2