

**Mississippi State Standards
correlated to
Merit Software Math Programs**

The Mathematics Framework, revised in 2000, is to promote an understanding of the principals and methods of mathematics used for decision-making, problem solving and communicating in a technological society. The content of the framework is centered on the areas of patterns/algebraic thinking, data analysis/prediction, measurement, geometric concepts, and number sense. The implementation year for the Framework is school year 2001-2002.

Merit’s Math programs address the following Mississippi Math Framework Standards:

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Grade 3

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Explore, model, and create patterns. (P, G, N)	a. Recognize, describe, and extend patterns (e.g., colors, shapes, numbers, letters).	Word Problem Shape-Up Set 1, 2, 3
Math	1. Explore, model, and create patterns. (P, G, N)	b. Create patterns using manipulatives.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Explore, model, and create patterns. (P, G, N)	c. Demonstrate and explain the relationship between numeration and patterns.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Identify and classify geometric figures and concepts. (P, M, G, N)	a. Identify polygons with three, four, five, six, eight, and ten sides.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Identify and classify geometric figures and concepts. (P, M, G, N)	b. Identify and distinguish between parallel, intersecting, and perpendicular lines.	Word Problem Shape-Up Set 1, 2, 3

Math	2. Identify and classify geometric figures and concepts. (P, M, G, N)	c. Identify right angles and compare them to acute and obtuse angles.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Identify and classify geometric figures and concepts. (P, M, G, N)	d. Establish three-dimensional relationships (e.g., circle/sphere, square/cube, triangle/pyramid, and rectangle/rectangular prism).	Word Problem Shape-Up Set 1, 2, 3
Math	2. Identify and classify geometric figures and concepts. (P, M, G, N)	e. Explore geometric concepts through appropriate technology and resources.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	a. Identify and compare differences between length, weight/mass, and capacity/volume using English and metric measures.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	b. Choose appropriate units of measurement for length, weight/mass, and capacity/volume.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	c. Convert between pints, quarts, and gallons.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	d. Convert miles to feet and yards.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	e. Compare metric measurements to English measurements.	Word Problem Shape-Up Set 1, 2, 3

Math	3. Develop the process of measurement and related concepts. (P, D, M, G, N)	f. Using various types of instruments, measure: <ul style="list-style-type: none"> • length in millimeters, meters, kilometers; • weight in grams and kilograms; • capacity in milliliters and liters; • time to nearest minute; and • temperature in Celsius and Fahrenheit. 	Word Problem Shape-Up Set 1, 2, 3
Math	4. Collect, organize, interpret data, and explore the concepts of probability. (P, D, M, G, N)	a. Compare and interpret quantities represented on different types of graphs (line, bar, circle), and make predictions based on the information collected.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Collect, organize, interpret data, and explore the concepts of probability. (P, D, M, G, N)	b. Compare data represented on charts and tables.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Collect, organize, interpret data, and explore the concepts of probability. (P, D, M, G, N)	c. Use appropriate technology and manipulatives to collect, organize, and display data.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Collect, organize, interpret data, and explore the concepts of probability. (P, D, M, G, N)	d. Explore, predict, and model the number of different combinations of two or more objects.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Collect, organize, interpret data, and explore the concepts of probability. (P, D, M, G, N)	e. Experiment and describe the concepts of probability.	Word Problem Shape-Up Set 1, 2, 3

Math	5. Use estimation and mental math to obtain solutions to computational and measurement problems using a variety of techniques. (P, D, M, G, N)	a. Estimate solutions to problems using basic operations.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use estimation and mental math to obtain solutions to computational and measurement problems using a variety of techniques. (P, D, M, G, N)	b. Estimate sums and differences in money problems up to \$100.00.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use estimation and mental math to obtain solutions to computational and measurement problems using a variety of techniques. (P, D, M, G, N)	c. Estimate elapsed time.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use estimation and mental math to obtain solutions to computational and measurement problems using a variety of techniques. (P, D, M, G, N)	d. Estimate measures of length, weight/mass, and capacity/volume.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use estimation and mental math to obtain solutions to computational and measurement problems using a variety of techniques. (P, D, M, G, N)	e. Use mental math to solve problems.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	a. Read, model, and count to five-digit whole numbers.	Word Problem Shape-Up Set 1, 2, 3

Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	b. Read and write number words for up to five-digit numbers.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	c. Recognize place value to the ten thousands place.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	d. Identify the value of a given digit in a five-digit number.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	e. Compare and order five-digit numbers using $<$, $>$, and $=$.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	f. Express numbers in expanded notation.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	g. Regroup hundreds, thousands, and ten thousands.	Word Problem Shape-Up Set 1, 2, 3

Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	h. Identify points on a number line.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	i. Round numbers to the nearest 1,000.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	j. Recognize, draw, model and order fractions with fourths, fifths, sixths, and eighths.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	k. Recognize, draw, and model equivalent fractions.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	l. Read and write Roman numerals 1 to 100.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify number values and relationships of five-digit numbers. (P, D, M, G, N)	m. Use appropriate multimedia resources and manipulatives to explore number values and relationships.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	a. Choose appropriate operational signs to complete number sentences.	Word Problem Shape-Up Set 1, 2, 3

Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	b. Add and subtract five-digit numbers with and without regrouping.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	c. Add up to three four-digit addends.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	d. Recall multiplication facts 0 to 5.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	e. Model, explore, and state multiplication facts 6 to 12, and division facts 1 to 12.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	f. Multiply up to three-digit by one-digit multipliers with and without regrouping.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	g. Divide three-digit numbers by one-digit divisors.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	h. Add and subtract fractions with like denominators.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	i. Model, explore, and recognize decimals to tenths.	Word Problem Shape-Up Set 1, 2, 3

Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	j. Add and subtract numbers with decimals to tenths.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	k. Add amounts of money up to \$999.99 represented with decimal notation.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	l. Subtract amounts of money from \$100.00 or less.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	m. Count change from \$5.00 or less.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Model, identify, and apply the four basic operations. (P, D, M, G, N)	n. Use a variety of multimedia and technology resources to solve problems involving basic operations.	Word Problem Shape-Up Set 1, 2, 3
Math	8. Use variables and open sentences involving the four basic operations. (P, D, M)	a. Determine the value of variables to complete number sentences.	Word Problem Shape-Up Set 1, 2, 3
Math	8. Use variables and open sentences involving the four basic operations. (P, D, M)	b. Construct fact families for the basic operations.	Word Problem Shape-Up Set 1, 2, 3

Math	8. Use variables and open sentences involving the four basic operations. (P, D, M)	c. Model, identify, and explain the properties of basic operations using appropriate manipulatives: <ul style="list-style-type: none"> • zero property of addition, subtraction, multiplication, and division; • inverse operations of addition, subtraction, multiplication, and division; • commutative and associative properties of addition and multiplication; and • identity property of addition and multiplication. 	Word Problem Shape-Up Set 1, 2, 3
Math	9. Apply appropriate strategies to solve word problems. (P, D, M, N)	a. Solve one and two-step word problems using the four basic operations.	Word Problem Shape-Up Set 1, 2, 3
Math	9. Apply appropriate strategies to solve word problems. (P, D, M, N)	b. Solve word problems using time, money, and measurements.	Word Problem Shape-Up Set 1, 2, 3
Math	9. Apply appropriate strategies to solve word problems. (P, D, M, N)	c. Analyze word problems and determine if the given information is required for the solution.	Word Problem Shape-Up Set 1, 2, 3
Math	9. Apply appropriate strategies to solve word problems. (P, D, M, N)	d. Create and write word problems using one or more of the basic operations.	Word Problem Shape-Up Set 1, 2, 3
Math	9. Apply appropriate strategies to solve word problems. (P, D, M, N)	e. Use multimedia resources to investigate and solve word problems.	Word Problem Shape-Up Set 1, 2, 3

Grade 4

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Explore and discover properties and relationships of number patterns. (P, M, G, N)	a. Recognize, describe, and extend a given pattern.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Explore and discover properties and relationships of number patterns. (P, M, G, N)	b. Analyze a given pattern and generate a similar pattern.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Explore and discover properties and relationships of number patterns. (P, M, G, N)	c. Use variables and open sentences to solve problems with the four basic operations.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	a. Construct two and three-dimensional geometric figures with concrete materials.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	b. Identify, describe, classify, and compare two and three-dimensional geometric shapes, figures, and models.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	c. Investigate transformational results of slides, flips, and turns..	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	d. Identify and model points, lines (including parallel, perpendicular, and intersecting lines), line segments, and rays.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	e. Recognize right, acute, and obtuse angles.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	f. Define and label the following parts of a circle: center, radius, diameter, and chord and explore the meaning of circumference of a circle.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Explore concepts of two and three-dimensional geometry. (P, M, G, N)	g. Identify congruent and symmetrical figures.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and the concepts related to units of measurement. (P, M, G, N)	a. Measure a given object to the nearest fourth of an inch.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and the concepts related to units of measurement. (P, M, G, N)	b. Select, use, compare, and convert within the appropriate standard (English and metric) system of measurement.	Word Problem Shape-Up Set 1, 2, 3

Math	3. Develop the process of measurement and the concepts related to units of measurement. (P, M, G, N)	c. Determine the perimeter and areas (grid areas) of appropriate standard and nonstandard geometric figures.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and the concepts related to units of measurement. (P, M, G, N)	d. Identify the attributes of length, weight, capacity, mass, volume, time, and temperature using English and metric units of measurement.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Develop the process of measurement and the concepts related to units of measurement. (P, M, G, N)	e. Calculate and solve problems with elapsed time.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Explore probability and the process of data analysis and predictions. (P, D, M, G, N)	a. Collect, organize, and interpret data, using bar graphs, circle graphs, line graphs, pictographs, charts, tables, and tally charts.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Explore probability and the process of data analysis and predictions. (P, D, M, G, N)	b. Formulate and solve problems that involve data analysis and prediction.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Explore probability and the process of data analysis and predictions. (P, D, M, G, N)	c. Investigate the concepts of probability.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Estimate and use mental computation to solve mathematical problems. (P, D, M, N)	a. Estimate sums, differences, products, and quotients using a variety of techniques.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Estimate and use mental computation to solve mathematical problems. (P, D, M, N)	b. Determine whether estimated answers are reasonable and units are appropriate.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Estimate and use mental computation to solve mathematical problems. (P, D, M, N)	c. Estimate and use mental computation to solve real-life problems where exact answers are not required.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	a. Read and write six-digit whole numbers, decimal numbers through hundredths, and fractions.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	b. Order and compare six-digit whole numbers, decimal numbers through hundredths, and fractions with denominators of twelve or less.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	c. Round whole numbers to one hundred thousand and round decimal numbers through hundredths.	Word Problem Shape-Up Set 1, 2, 3

Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	d. Identify, draw, and model equivalent fractions.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	e. Using real-life objects, represent, draw, and explain the relationships between fractions and decimals.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Identify numerical relationships with whole numbers, decimals, and fractions. (P, D, M, G, N)	f. Utilize a variety of multimedia and technology resources to explore numerical relationships.	Word Problem Shape-Up Set 1, 2, 3
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	a. Add and subtract six-digit whole numbers with and without regrouping.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	b. Add and subtract decimals to tenths and hundredths.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	c. Multiply whole numbers by one-digit multipliers, and divide by one-digit divisors, with and without remainders.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	d. Model and identify factors and multiples of whole numbers to one hundred.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	e. Add, subtract, multiply, and divide money amounts.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	f. Count change to \$10.00.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	g. Explore the four basic operations through appropriate multimedia resources.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	h. Add and subtract fractions with like and unlike denominators.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Math	7. Utilize the four basic operations for whole numbers and the addition and subtraction of decimals and fractions. (P, D, M, N)	i. Apply problem-solving techniques to solve one and two-step problems involving the basic operations.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
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Grade 5

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	a. Draw, label, describe, classify, and identify points, lines, line segments, and rays.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	c. Find the area of squares and rectangles.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	d. Incorporate appropriate technology and manipulatives to explore geometric figures.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	e. Use geometric ideas to solve multi-step problems.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	f. Model, draw, and describe transformations (flips, slides, and turns) of two-dimensional figures.	Word Problem Shape-Up Set 1, 2, 3
Math	1. Identify, describe, compare, and classify geometric figures. (P, M, G, N)	g. Draw, measure, label, describe, and classify angles, quadrilaterals, and triangles.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	a. Find measurements of length to nearest millimeter in the metric system and one-eighth inch in the English system.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	b. Determine appropriate units for measurement of mass, length, distance, volume, and time in the standard (English and metric) systems.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	c. Use appropriate tools to measure area, perimeter, circumference, radius, and diameter in the standard (English and metric) systems.	Word Problem Shape-Up Set 1, 2, 3

Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	d. Convert units within a given measurement system.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	e. Estimate measurements of various objects.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	f. Solve multi-step problems using suitable measurements.	Word Problem Shape-Up Set 1, 2, 3
Math	2. Develop concepts and the process of measuring related to units of measure. (P, D, M, G, N)	g. Incorporate appropriate technology and manipulatives to explore measurement.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Collect, read, organize, and interpret data and explore probability. (P, D, M, G, N)	a. Investigate the probability and patterns in tossing coins, number cubes, and spinners.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Collect, read, organize, and interpret data and explore probability. (P, D, M, G, N)	b. Draw and label bar, line, circle graphs, and pictographs.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Collect, read, organize, and interpret data and explore probability. (P, D, M, G, N)	c. Gather, organize, and analyze data to create tables, charts, and graphs.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Collect, read, organize, and interpret data and explore probability. (P, D, M, G, N)	d. Incorporate appropriate technology and manipulatives to explore data collection, organization, and interpretation.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	a. Compare and order nine-digit whole numbers, decimals to the nearest thousandth, like and unlike fractions, and mixed numerals using appropriate symbols.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	b. Read and write standard form and expanded notation for numbers through hundred millions.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	c. Use divisibility rules to identify factors and multiples of whole numbers to 500.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	d. Model and distinguish between prime and composite numbers, factors and common factors, multiples and common multiples.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	e. Model and show relationships among fractions, decimals, and percents.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	f. Model, identify, and write equivalent fractions including improper fractions and mixed numerals with like and unlike denominators.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	4. Explain and explore relationships of whole numbers, fractions, mixed numerals, decimals, and percents. (P, D, G, N)	g. Develop the terminology relating to percent and compute percentages of 10, 20, 25, and 50 percent of a number.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	a. Add and subtract nine-digit whole numbers with and without regrouping.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	b. Multiply four-digit numbers by two-digit numbers.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	c. Divide by two-digit divisors with and without remainders.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	d. Add and subtract like/unlike fractions and mixed numerals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	e. Add and subtract decimals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	f. Solve problems dealing with money.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	g. Determine unit price when given total cost of items.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	h. Incorporate appropriate technology and manipulatives to explore basic operations of whole numbers, fractions, mixed numbers, and decimals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape- Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	i. Solve multi-step word problems using the four basic operations with computation and estimation.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape- Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	j. Use symbols and variables in addition, subtraction, multiplication, and division problems.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape- Up
Math	5. Use the basic operations to investigate and apply whole numbers, fractions, mixed numbers, and decimals. (P, D, M, G, N)	k. Select and use estimation techniques appropriate to specific problems.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape- Up

Grade 6

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	a. Solve equations with one variable using addition and subtraction.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	b. Model simple addition and subtraction problems using integers on a number line.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	c. Recognize and continue a number pattern and/or geometric representation (e.g., triangular numbers).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	d. State a rule to explain a number pattern.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	e. Using whole numbers, complete a function table based on a given rule.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply the use of algebraic functions, patterns, sequences, and language. (P, D, M, G, N)	f. Locate points in all four quadrants of the coordinate plane.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Math	2. Explore geometric patterns and relationships. (P, M, G, N)	a. Draw points, lines (parallel, perpendicular, intersecting), line segments, and rays.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	2. Explore geometric patterns and relationships. (P, M, G, N)	b. Identify, classify, and measure right, acute, obtuse, and straight angles.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	2. Explore geometric patterns and relationships. (P, M, G, N)	e. Describe, compare, construct, classify, and identify flips, slides, turns (reflections, translations, rotations).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	3. Solve geometric problems using formulas. (P, M, G, N)	a. Calculate the area of parallelograms (squares and rectangles) without using calculators.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Solve geometric problems using formulas. (P, M, G, N)	b. Find the circumference of a circle with and without the use of manipulative materials.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Solve geometric problems using formulas. (P, M, G, N)	c. Determine the area of a circle with and without the use of calculators.	Word Problem Shape-Up Set 1, 2, 3
Math	3. Solve geometric problems using formulas. (P, M, G, N)	d. Find the volume of cubes and rectangular prisms with and without the use of calculators.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	a. Measure length to the nearest one-sixteenth inch.	Basic Algebra Shape-Up Set 1 & 2
Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	b. Identify appropriate units for measuring length, weight, volume, and temperature in the standard (English and metric) systems.	Word Problem Shape-Up Set 1, 2, 3
Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	c. Use appropriate mathematical tools for determining length, weight, volume, and temperature in the standard (English and metric) systems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	d. Use estimation to solve problems in the standard (English and metric) systems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	e. Convert units within a measurement system.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	4. Use and explore the concepts of measurement. (P, D, M, G, N)	f. Explore the relationship between integers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	a. Read and construct line, bar, and pictographs.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	b. Read and interpret circle graphs using percents.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	c. Construct and explain a frequency table.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	d. Solve problems involving combinations.	Word Problem Shape-Up Set 1, 2, 3
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	e. Use probability to predict the outcome of a single event and express the result as a fraction or decimal.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	5. Use probability and collect, organize, interpret, and display types of data using manipulatives, paper and pencil, calculators and/or computers. (P, D, M, G, N)	f. Estimate and compare data to include mean, median, and mode.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Recognize and use place and value, and order of whole and decimal numbers. (P, D, N)	a. Read, write, and round twelve-digit whole numbers.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Recognize and use place and value, and order of whole and decimal numbers. (P, D, N)	b. Compare and order whole numbers using $<$, $>$, and $=$.	Word Problem Shape-Up Set 1, 2, 3
Math	6. Recognize and use place and value, and order of whole and decimal numbers. (P, D, N)	d. Read, write, and round decimal numbers to the nearest ten thousandth.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	6. Recognize and use place and value, and order of whole and decimal numbers. (P, D, N)	e. Compare and order decimal numbers using $<$, $>$, and $=$.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2

Math	6. Recognize and use place and value, and order of whole and decimal numbers. (P, D, N)	g. Use estimation to determine accuracy of solutions.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	7. Utilize estimation and technology to perform the four basic operations. (P, N)	a. Multiply a three-digit decimal number by a two-digit decimal number.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	7. Utilize estimation and technology to perform the four basic operations. (P, N)	c. Round decimal quotients to the nearest whole number, tenths and hundredths.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	7. Utilize estimation and technology to perform the four basic operations. (P, N)	d. Estimate and solve one and two-step problems involving addition, subtraction, multiplication, and division of decimals, with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	8. Determine multiple relationships among ratios, proportions, decimal numbers, percents, and fractions. (P, D, M, G, N)	a. Demonstrate different ways to express ratios.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Determine multiple relationships among ratios, proportions, decimal numbers, percents, and fractions. (P, D, M, G, N)	b. Create and solve proportional equations using one variable.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Determine multiple relationships among ratios, proportions, decimal numbers, percents, and fractions. (P, D, M, G, N)	c. Convert among fractions, decimals, and percents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Determine multiple relationships among ratios, proportions, decimal numbers, percents, and fractions. (P, D, M, G, N)	d. Find the percent of a number.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Determine multiple relationships among ratios, proportions, decimal numbers, percents, and fractions. (P, D, M, G, N)	e. Estimate and calculate sale price and/or original price using discount rates.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	a. Compare and order fractions as well as mixed numerals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	b. Determine equivalent forms of fractions.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	c. Use a variety of techniques to express a fraction in simplest form (e.g., least common denominator, prime factorization).	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	d. Locate fractions, decimals, and mixed numerals on a number line.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	e. Add and subtract mixed numerals, with and without regrouping, expressing the answer in simplest form using like and unlike denominators.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	f. Multiply and divide proper fractions as well as mixed numerals expressing the answer in simplest form.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	9. Explore the relationships between fractions and mixed numerals. (P, M, N)	g. Estimate, solve, and compare solutions to one and two-step problems involving addition, subtraction, multiplication, and division of proper fractions and mixed numerals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	10. Investigate and apply the concepts of prime and composite numbers, greatest common factor, and the least common multiple. (P, D, N)	a. Use the rules of divisibility to determine factors and multiples of a given number.	Word Problem Shape-Up Set 1, 2, 3
Math	10. Investigate and apply the concepts of prime and composite numbers, greatest common factor, and the least common multiple. (P, D, N)	c. Distinguish between prime and composite numbers, with and without the use of calculators.	Word Problem Shape-Up Set 1, 2, 3
Math	10. Investigate and apply the concepts of prime and composite numbers, greatest common factor, and the least common multiple. (P, D, N)	d. Use the greatest common factor (GCF) to simplify fractions.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	10. Investigate and apply the concepts of prime and composite numbers, greatest common factor, and the least common multiple. (P, D, N)	e. Use the least common multiple (LCM) to find common denominators.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Grade 7

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	a. Compare, order, round, and estimate decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	b. Add, subtract, multiply, and divide decimals in real-life situations with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	c. Use powers of ten to multiply and divide decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	d. Convert among decimals, fractions, and mixed numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	e. Express ratios as fractions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	f. Add, subtract, multiply, and divide fractions and mixed numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	1. Apply concepts and perform the basic operations with decimals, fractions, and mixed numbers. (P, M, N)	g. Use estimation to add, subtract, multiply, and divide fractions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	2. Apply and use basic principles of number sense. (P, M, N)	a. Use patterns to develop the concept of exponents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	2. Apply and use basic principles of number sense. (P, M, N)	b. Write numbers in standard and exponential form.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	2. Apply and use basic principles of number sense. (P, M, N)	e. Describe and extend patterns in sequences.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	2. Apply and use basic principles of number sense. (P, M, N)	f. Identify and use the commutative, associative, distributive, and identity properties.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	2. Apply and use basic principles of number sense. (P, M, N)	g. Use patterns to develop the concepts of roots of perfect squares with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	3. Use units of measurement with standard systems. (P, D, M, G, N)	a. Convert within a standard measurement system (English and metric).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	3. Use units of measurement with standard systems. (P, D, M, G, N)	b. Convert temperature using the Fahrenheit and Celsius formulas.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	3. Use units of measurement with standard systems. (P, D, M, G, N)	c. Use standard units of measurement to solve application problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	a. Organize data in a frequency table.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	b. Interpret and construct histograms, line, and bar graphs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	c. Interpret and construct circle graphs when given degrees.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	d. Interpret and construct stem and leaf plots and line plots from data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	e. Estimate and compare data including mean, median, mode, and 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
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	f. Predict and recognize data from statistical graphs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	g. Determine probability of a single event.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Math	4. Collect, organize, and summarize data and use simple probability. (P, D, M, G, N)	h. Use simple permutations and combinations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	6. Develop and apply the basic operations of integers. (P, D, M, G, N)	a. Recognize and write integers including opposites and absolute value.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	6. Develop and apply the basic operations of integers. (P, D, M, G, N)	b. Compare and order integers.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	6. Develop and apply the basic operations of integers. (P, D, M, G, N)	c. Graph ordered pairs on a coordinate plane.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	6. Develop and apply the basic operations of integers. (P, D, M, G, N)	d. Add, subtract, multiply, and divide integers with and without calculators.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Create and apply algebraic expressions and equations. (P, G, N)	a. Translate between simple algebraic expressions and verbal phrases.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Create and apply algebraic expressions and equations. (P, G, N)	b. Use the order of operations to simplify and/or evaluate numerical and algebraic expressions with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Create and apply algebraic expressions and equations. (P, G, N)	c. Solve linear equations using the addition, subtraction, multiplication, and division properties of equality with integer solutions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Create and apply algebraic expressions and equations. (P, G, N)	d. Write and solve equations that represent problem-solving situations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Create and apply algebraic expressions and equations. (P, G, N)	e. Write a real-world situation from a given equation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	a. Explore equivalent ratios and express them in simplest form.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	b. Solve problems involving proportions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	c. Determine unit rates.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	d. Use models to illustrate the meaning of percent.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	e. Convert among decimals, fractions, mixed numbers, and percents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	f. Determine the percent of a number.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	g. Estimate decimals, fractions, and percents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	h. Use proportions and equations to solve problems with rate, base, and part with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	i. Find the percent of increase and decrease.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Survey and apply concepts of ratio, proportion, and percent. (P, D, M, G, N)	j. Solve problems involving sales tax, discount, and simple interest with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 8

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	a. Classify and give examples of real numbers such as natural, whole, integers, rational, and irrational.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	b. Identify, compare, and order fractions and decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	c. Round and estimate fractions and decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	d. Solve real-life problems involving addition, subtraction, multiplication, and division of fractions, decimals, and mixed numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	e. Determine the absolute value and additive inverse of real numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	f. Classify, compare, and order integers and rational numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	1. Apply concepts and perform basic operations using real numbers. (P, D, G, N)	g. Add, subtract, multiply, and divide integers and rational numbers with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	2. Use basic concepts of number sense and perform operations involving order of operations, exponents, scientific notation. (P, M, N)	a. Simplify expressions using order of operations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up

Math	2. Use basic concepts of number sense and perform operations involving order of operations, exponents, scientific notation. (P, M, N)	b. Use the rules of exponents when multiplying or dividing like bases, and when raising a power to a power.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	2. Use basic concepts of number sense and perform operations involving order of operations, exponents, scientific notation. (P, M, N)	c. Multiply and divide numbers by powers of ten.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	2. Use basic concepts of number sense and perform operations involving order of operations, exponents, scientific notation. (P, M, N)	f. Evaluate and estimate powers, squares, and square roots with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	a. Identify and apply the commutative, associative, and distributive properties.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	b. Distinguish between numerical and algebraic expressions, equations, and inequalities.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	c. Convert between word phrases or sentences and algebraic expressions, equations, or inequalities.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	d. Simplify and evaluate numerical and algebraic expressions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2

Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	e. Solve and check one and two-step linear equations and inequalities.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	f. Solve and check multi-step linear equations using the distributive property.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	g. Graph solutions to inequalities on a number line.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	3. Use properties to create and simplify algebraic expressions and solve linear equations and inequalities. (P, G, N)	h. Write a corresponding real-life situation from an algebraic expression.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	a. Write ratios comparing given data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	b. Convert among ratios, decimals, and percents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	c. Solve proportions.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	d. Solve for part, rate, or base.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	e. Find commissions and rates of commission, discounts, sale prices, sales tax, and simple interest.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2

Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	f. Find percent of increase and decrease.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	4. Apply the concepts of ratio, proportion, and percent to solve real-life problems. (P, D, M, G, N)	g. Write and solve real-life word problems using percents with and without calculators.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	5. Convert and use standard units (English and metric) of measurement. (P, D, M, G, N)	a. Convert, perform basic operations, and solve word problems using standard measurements.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	5. Convert and use standard units (English and metric) of measurement. (P, D, M, G, N)	b. Measure line segments and find dimensions of given figures using standard measurements.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	5. Convert and use standard units (English and metric) of measurement. (P, D, M, G, N)	c. Write and solve real-life problems involving standard measurements.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	5. Convert and use standard units (English and metric) of measurement. (P, D, M, G, N)	d. Select appropriate units of measurement for real-life problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Sets 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	a. Interpret and construct frequency tables and charts.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	b. Find mean, median, mode, and range of a given set of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	c. Interpret and construct bar, line, circle graphs, and pictographs from given data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	d. Interpret and construct stem-and-leaf, box-and-whisker, and scatterplots from given data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	e. Predict patterns or trends based on given data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	f. Use combinations and permutations in application problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	7. Interpret, organize, and make predictions about a variety of data using concepts of probability and statistics. (P, D, M, G, N)	g. Calculate and apply basic probability.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Apply the principles of graphing in the coordinate system. (P, D, M, G, N)	a. Identify the x- and y-axis, the origin, and the quadrants of a coordinate plane.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Apply the principles of graphing in the coordinate system. (P, D, M, G, N)	b. Plot ordered pairs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Apply the principles of graphing in the coordinate system. (P, D, M, G, N)	c. Label the x and y coordinates for a given point.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	8. Apply the principles of graphing in the coordinate system. (P, D, M, G, N)	d. Using tables, graph simple linear equations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Algebra I

Subhead	Competencies	Suggested Objectives	Merit Software
Math	1. Recognize, classify, and use real numbers and their properties. (P, M, N)	a. Describe the real number system using a diagram to show the relationships of component sets of numbers that compose the set of real numbers.	Basic Algebra Shape-Up Set 1 & 2
Math	1. Recognize, classify, and use real numbers and their properties. (P, M, N)	b. Model properties and equivalence relationships of real numbers.	Basic Algebra Shape-Up Set 1 & 2
Math	1. Recognize, classify, and use real numbers and their properties. (P, M, N)	c. Demonstrate and apply properties of real numbers to algebraic expressions.	Basic Algebra Shape-Up Set 1 & 2
Math	2. Recognize, create, extend, and apply patterns, relations, and functions and their applications. (P, D, G, N)	a. Analyze relationships between two variables, identify domain and range, and determine whether a relation is a function.	Basic Algebra Shape-Up Set 1 & 2
Math	2. Recognize, create, extend, and apply patterns, relations, and functions and their applications. (P, D, G, N)	c. Determine the rule that describes a pattern and determine the pattern given the rule.	Basic Algebra Shape-Up Set 1 & 2
Math	2. Recognize, create, extend, and apply patterns, relations, and functions and their applications. (P, D, G, N)	d. Apply patterns to graphs and use appropriate technology.	Basic Algebra Shape-Up Set 1 & 2
Math	3. Simplify algebraic expressions, solve and graph equations, inequalities and systems in one and two variables.	a. Solve, check, and graph linear equations and inequalities in one variable, including rational coefficients.	Basic Algebra Shape-Up Set 1 & 2
Math	3. Simplify algebraic expressions, solve and graph equations, inequalities and systems in one and two variables.	c. Solve and graph absolute value equations and inequalities in one variable.	Basic Algebra Shape-Up Set 1 & 2

Math	3. Simplify algebraic expressions, solve and graph equations, inequalities and systems in one and two variables.	d. Use algebraic and graphical methods to solve systems of linear equations and inequalities.	Basic Algebra Shape-Up Set 1 & 2
Math	3. Simplify algebraic expressions, solve and graph equations, inequalities and systems in one and two variables.	e. Translate problem-solving situations into algebraic sentences and determine solutions.	Basic Algebra Shape-Up Set 1 & 2
Math	5. Utilize various formulas in problem-solving situations. (P, D, M, G, N)	a. Evaluate and apply formulas (e.g., circumference, perimeter, area, volume, Pythagorean Theorem, interest, distance, rate, and time).	Basic Algebra Shape-Up Set 1 & 2
Math	5. Utilize various formulas in problem-solving situations. (P, D, M, G, N)	b. Reinforce formulas experimentally to verify solutions.	Basic Algebra Shape-Up Set 1 & 2
Math	5. Utilize various formulas in problem-solving situations. (P, D, M, G, N)	c. Given a literal equation, solve for any variable of degree one.	Basic Algebra Shape-Up Set 1 & 2
Math	5. Utilize various formulas in problem-solving situations. (P, D, M, G, N)	d. Using the appropriate formula, determine the length, midpoint, and slope of a segment in a coordinate plane.	Basic Algebra Shape-Up Set 1 & 2
Math	6. Communicate using the language of algebra. (P, D, M, G, N)	a. Recognize and demonstrate the appropriate use of terms, symbols, and notations.	Basic Algebra Shape-Up Set 1 & 2
Math	6. Communicate using the language of algebra. (P, D, M, G, N)	b. Distinguish between linear and non-linear equations.	Basic Algebra Shape-Up Set 1 & 2
Math	6. Communicate using the language of algebra. (P, D, M, G, N)	c. Translate between verbal expressions and algebraic expressions.	Basic Algebra Shape-Up Set 1 & 2
Math	6. Communicate using the language of algebra. (P, D, M, G, N)	d. Apply the operations of addition, subtraction, and scalar multiplication to matrices.	Basic Algebra Shape-Up Set 1 & 2

Math	6. Communicate using the language of algebra. (P, D, M, G, N)	f. Use appropriate algebraic language to justify solutions and processes used in solving problems.	Basic Algebra Shape-Up Set 1 & 2
Math	8. Analyze data and apply concepts of probability. (P, D, M, G, N)	a. Collect, organize, graph, and interpret data sets, draw conclusions, and make predictions from the analysis of data.	Basic Algebra Shape-Up Set 1 & 2
Math	8. Analyze data and apply concepts of probability. (P, D, M, G, N)	b. Define event and sample spaces and apply to simple probability problems.	Basic Algebra Shape-Up Set 1 & 2
Math	8. Analyze data and apply concepts of probability. (P, D, M, G, N)	c. Use counting techniques, permutations, and combinations to solve probability problems.	Basic Algebra Shape-Up Set 1 & 2