

**Texas Essential Knowledge and Skills for
Math correlated to
Merit Software Math Programs**

The provisions of this subchapter shall be implemented beginning September 1, 1998, and at that time, shall supersede §75.63(e)-(g) of this title (relating to Mathematics).

Merit's Math programs address the following TEKS:

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Grade 3

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(3.1) The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.	(A) use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999;	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.1) The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.	(B) use place value to compare and order whole numbers through 9,999; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.2) The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects.	(A) construct concrete models of fractions;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(3.2) The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects.	(B) compare fractional parts of whole objects or sets of objects in a problem situation using concrete models;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(3.2) The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects.	(C) use fraction names and symbols to describe fractional parts of whole objects or sets of objects with denominators of 12 or less; and	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Number, operation, and quantitative reasoning	(3.2) The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects.	(D) construct concrete models of equivalent fractions for fractional parts of whole objects.	Fraction Shape-Up
Number, operation, and quantitative reasoning	(3.3) The student adds and subtracts to solve meaningful problems involving whole numbers.	(A) model addition and subtraction using pictures, words, and numbers; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.3) The student adds and subtracts to solve meaningful problems involving whole numbers.	(B) select addition or subtraction and use the operation to solve problems involving whole numbers through 999.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.4) The student recognizes and solves problems in multiplication and division situations.	(A) learn and apply multiplication facts through the tens using concrete models;	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.4) The student recognizes and solves problems in multiplication and division situations.	(B) solve and record multiplication problems (one-digit multiplier); and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.4) The student recognizes and solves problems in multiplication and division situations.	(C) use models to solve division problems and use number sentences to record the solutions.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.5) The student estimates to determine reasonable results.	(A) round two-digit numbers to the nearest ten and three-digit numbers to the nearest hundred; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(3.5) The student estimates to determine reasonable results.	(B) estimate sums and differences beyond basic facts.	Word Problem Shape-Up Set 1, 2, 3
Patterns, relationships, and algebraic thinking	(3.6) The student uses patterns to solve problems.	(A) identify and extend whole-number and geometric patterns to make predictions and solve problems;	Word Problem Shape-Up Set 1
Patterns, relationships, and algebraic thinking	(3.6) The student uses patterns to solve problems.	(B) identify patterns in multiplication facts using concrete objects, pictorial models, or technology; and	Word Problem Shape-Up Set 1, 2, 3

Patterns, relationships, and algebraic thinking	(3.7) The student uses lists, tables, and charts to express patterns and relationships.	(A) generate a table of paired numbers based on a real-life situation such as insects and legs; and	Word Problem Shape-Up Set 1, 2, 3
Patterns, relationships, and algebraic thinking	(3.7) The student uses lists, tables, and charts to express patterns and relationships.	(B) identify patterns in a table of related number pairs based on a real-life situation and extend the table.	Word Problem Shape-Up Set 1, 2, 3
Geometry and spatial reasoning	(3.8) The student uses formal geometric vocabulary.	(A) The student is expected to name, describe, and compare shapes and solids using formal geometric vocabulary.	Word Problem Shape-Up Set 1, 2, 3
Geometry and spatial reasoning	(3.10) The student recognizes that numbers can be represented by points on a line.	(A) The student is expected to locate and name points on a line using whole numbers and fractions such as halves.	Word Problem Shape-Up Set 1
Measurement	(3.11) The student selects and uses appropriate units and procedures to measure length and area.	(A) estimate and measure lengths using standard units such as inch, foot, yard, centimeter, decimeter, and meter;	Word Problem Shape-Up Set 1, 2, 3
Measurement	(3.11) The student selects and uses appropriate units and procedures to measure length and area.	(B) use linear measure to find the perimeter of a shape; and	Word Problem Shape-Up Set 1
Measurement	(3.11) The student selects and uses appropriate units and procedures to measure length and area.	(C) use concrete models of square units to determine the area of shapes.	Word Problem Shape-Up Set 1
Measurement	(3.12) The student measures time and temperature.	(A) tell and write time shown on traditional and digital clocks; and	Word Problem Shape-Up Set 1
		(B) use a thermometer to measure temperature.	Word Problem Shape-Up Set 1
Measurement	(3.13) The student applies measurement concepts.	The student is expected to measure to solve problems involving length, area, temperature, and time.	Word Problem Shape-Up Set 1
Probability and statistics	(3.14) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(A) collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data;	Word Problem Shape-Up Set 1
Probability and statistics	(3.14) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(B) interpret information from pictographs and bar graphs; and	Word Problem Shape-Up Set 1
Probability and statistics	(3.14) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(C) use data to describe events as more likely, less likely, or equally likely.	Word Problem Shape-Up Set 1

Underlying processes and mathematical tools	(3.15) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(A) identify the mathematics in everyday situations;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.15) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.15) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(C) select or develop an appropriate problem-solving strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.15) The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(D) use tools such as real objects, manipulatives, and technology to solve problems.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.16) The student communicates about Grade 3 mathematics using informal language.	(A) explain and record observations using objects, words, pictures, numbers, and technology; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.16) The student communicates about Grade 3 mathematics using informal language.	(B) relate informal language to mathematical language and symbols.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.17) The student uses logical reasoning to make sense of his or her world.	(A) make generalizations from patterns or sets of examples and nonexamples; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(3.17) The student uses logical reasoning to make sense of his or her world.	(B) justify why an answer is reasonable and explain the solution process.	Word Problem Shape-Up Set 1, 2, 3

Grade 4

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(4.1) The student uses place value to represent whole numbers and decimals.	(A) use place value to read, write, compare, and order whole numbers through the millions place; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.1) The student uses place value to represent whole numbers and decimals.	(B) use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete models.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.2) The student describes and compares fractional parts of whole objects or sets of objects.	(A) generate equivalent fractions using concrete and pictorial models;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(4.2) The student describes and compares fractional parts of whole objects or sets of objects.	(B) model fraction quantities greater than one using concrete materials and pictures;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(4.2) The student describes and compares fractional parts of whole objects or sets of objects.	(C) compare and order fractions using concrete and pictorial models; and	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(4.2) The student describes and compares fractional parts of whole objects or sets of objects.	(D) relate decimals to fractions that name tenths and hundredths using models.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(4.3) The student adds and subtracts to solve meaningful problems involving whole numbers and decimals.	(A) use addition and subtraction to solve problems involving whole numbers; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.3) The student adds and subtracts to solve meaningful problems involving whole numbers and decimals.	(B) add and subtract decimals to the hundredths place using concrete and pictorial models.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.4) The student multiplies and divides to solve meaningful problems involving whole numbers.	(A) model factors and products using arrays and area models;	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.4) The student multiplies and divides to solve meaningful problems involving whole numbers.	(B) represent multiplication and division situations in picture, word, and number form;	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.4) The student multiplies and divides to solve meaningful problems involving whole numbers.	(C) recall and apply multiplication facts through 12×12 ;	Word Problem Shape-Up Set 1, 2, 3

Number, operation, and quantitative reasoning	(4.4) The student multiplies and divides to solve meaningful problems involving whole numbers.	(E) use division to solve problems involving one-digit divisors.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.5) The student estimates to determine reasonable results.	(A) round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(4.5) The student estimates to determine reasonable results.	(B) estimate a product or quotient beyond basic facts.	Word Problem Shape-Up Set 1
Patterns, relationships, and algebraic thinking	(4.6) The student uses patterns in multiplication and division.	(A) use patterns to develop strategies to remember basic multiplication facts;	Word Problem Shape-Up Set 1, 2, 3
Patterns, relationships, and algebraic thinking	(4.7) The student uses organizational structures to analyze and describe patterns and relationships.	(A) The student is expected to describe the relationship between two sets of related data such as ordered pairs in a table.	Word Problem Shape-Up Set 1
Geometry and spatial reasoning	(4.10) The student recognizes the connection between numbers and points on a number line.	(A) The student is expected to locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths.	Word Problem Shape-Up Set 1
Measurement	(4.12) The student applies measurement concepts.	(A) The student is expected to measure to solve problems involving length, including perimeter, time, temperature, and area.	Word Problem Shape-Up Set 1
Probability and statistics	(4.13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(C) interpret bar graphs.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.14) The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(A) identify the mathematics in everyday situations;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.14) The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	Word Problem Shape-Up Set 1, 2, 3

Underlying processes and mathematical tools	(4.14) The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(C) select or develop an appropriate problem-solving strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.14) The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(D) use tools such as real objects, manipulatives, and technology to solve problems.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.15) The student communicates about Grade 4 mathematics using informal language.	(A) explain and record observations using objects, words, pictures, numbers, and technology; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.15) The student communicates about Grade 4 mathematics using informal language.	(B) relate informal language to mathematical language and symbols.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.16) The student uses logical reasoning to make sense of his or her world.	(A) make generalizations from patterns or sets of examples and nonexamples; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(4.16) The student uses logical reasoning to make sense of his or her world.	(B) justify why an answer is reasonable and explain the solution process.	Word Problem Shape-Up Set 1, 2, 3

Grade 5

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(5.1) The student uses place value to represent whole numbers and decimals.	(A) use place value to read, write, compare, and order whole numbers through the billions place; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(5.1) The student uses place value to represent whole numbers and decimals.	(B) use place value to read, write, compare, and order decimals through the thousandths place.	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(5.2) The student uses fractions in problem-solving situations.	(A) generate equivalent fractions;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Number, operation, and quantitative reasoning	(5.2) The student uses fractions in problem-solving situations.	(B) compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators; and	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(5.2) The student uses fractions in problem-solving situations.	(C) use models to relate decimals to fractions that name tenths, hundredths, and thousandths.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(5.3) The student adds, subtracts, multiplies, and divides to solve meaningful problems.	(A) use addition and subtraction to solve problems involving whole numbers and decimals;	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(5.3) The student adds, subtracts, multiplies, and divides to solve meaningful problems.	(E) model and record addition and subtraction of fractions with like denominators in problem-solving situations.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(5.4) The student estimates to determine reasonable results.	(A) round whole numbers and decimals through tenths to approximate reasonable results in problem situations; and	Word Problem Shape-Up Set 1, 2, 3
Number, operation, and quantitative reasoning	(5.4) The student estimates to determine reasonable results.	(B) estimate to solve problems where exact answers are not required.	Word Problem Shape-Up Set 1, 2, 3
Patterns, relationships, and algebraic thinking	(5.6) The student describes relationships mathematically.	The student is expected to select from and use diagrams and number sentences to represent real-life situations.	Word Problem Shape-Up Set 1, 2, 3
Geometry and spatial reasoning	(5.7) The student generates geometric definitions using critical attributes.	(A) identify critical attributes including parallel, perpendicular, and congruent parts of geometric shapes and solids; and	Word Problem Shape-Up Set 1
Geometry and spatial reasoning	(5.7) The student generates geometric definitions using critical attributes.	(B) use critical attributes to define geometric shapes or solids.	Word Problem Shape-Up Set 1
Measurement	(5.10) The student selects and uses appropriate units and procedures to measure volume.	(A) measure volume using concrete models of cubic units; and	Word Problem Shape-Up Set 1
Measurement	(5.10) The student selects and uses appropriate units and procedures to measure volume.	(B) estimate volume in cubic units.	Word Problem Shape-Up Set 1
Measurement	(5.11) The student applies measurement concepts.	(A) measure to solve problems involving length (including perimeter), weight, capacity, time, temperature, and area; and	Word Problem Shape-Up Set 1
Measurement	(5.11) The student applies measurement concepts.	(B) describe numerical relationships between units of measure within the same measurement system such as an inch is one-twelfth of a foot.	Word Problem Shape-Up Set 1

Probability and statistics	(5.12) The student describes and predicts the results of a probability experiment.	(A) use fractions to describe the results of an experiment; and	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Probability and statistics	(5.12) The student describes and predicts the results of a probability experiment.	(B) use experimental results to make predictions.	Word Problem Shape-Up Set 1, 2, 3
Probability and statistics	(5.13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(A) use tables of related number pairs to make line graphs;	Word Problem Shape-Up Set 1
Probability and statistics	(5.13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(B) describe characteristics of data presented in tables and graphs including the shape and spread of the data and the middle number; and	Word Problem Shape-Up Set 1, 2, 3
Probability and statistics	(5.13) The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	(C) graph a given set of data using an appropriate graphical representation such as a picture or line.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(5.14) The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(A) identify the mathematics in everyday situations;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(5.14) The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(5.14) The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(C) select or develop an appropriate problem-solving strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(5.14) The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	(D) use tools such as real objects, manipulatives, and technology to solve problems.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(5.15) The student communicates about Grade 5 mathematics using informal language.	(A) explain and record observations using objects, words, pictures, numbers, and technology; and	Word Problem Shape-Up Set 1, 2, 3

Underlying processes and mathematical tools	(5.15) The student communicates about Grade 5 mathematics using informal language.	(B) relate informal language to mathematical language and symbols.	Word Problem Shape-Up Set 1, 2, 3
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Grade 6

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(6.1) The student represents and uses rational numbers in a variety of equivalent forms.	(A) compare and order non-negative rational numbers;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(6.1) The student represents and uses rational numbers in a variety of equivalent forms.	(B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(6.1) The student represents and uses rational numbers in a variety of equivalent forms.	(C) use integers to represent real-life situations;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(6.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(A) model addition and subtraction situations involving fractions with objects, pictures, words, and numbers;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(6.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(B) use addition and subtraction to solve problems involving fractions and decimals;	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Number, operation, and quantitative reasoning	(6.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates; and	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(6.3) The student solves problems involving proportional relationships.	(A) use ratios to describe proportional situations;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(6.3) The student solves problems involving proportional relationships.	(B) represent ratios and percents with concrete models, fractions, and decimals; and	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(6.3) The student solves problems involving proportional relationships.	(C) use ratios to make predictions in proportional situations.	Fraction Shape-Up; Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Patterns, relationships, and algebraic thinking	(6.4) The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.	(A) use tables and symbols to represent and describe proportional and other relationships involving conversions, sequences, perimeter, area, etc.; and	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(6.4) The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.	(B) generate formulas to represent relationships involving perimeter, area, volume of a rectangular prism, etc., from a table of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Geometry and spatial reasoning	(6.6) The student uses geometric vocabulary to describe angles, polygons, and circles.	(C) describe the relationship between radius, diameter, and circumference of a circle.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Geometry and spatial reasoning	(6.7) The student uses coordinate geometry to identify location in two dimensions.	(A) The student is expected to locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Measurement	(6.8) The student solves application problems involving estimation and measurement of length, area, time, temperature, capacity, weight, and angles.	(A) estimate measurements and evaluate reasonableness of results;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Probability and statistics	(6.9) The student uses experimental and theoretical probability to make predictions.	(A) construct sample spaces using lists, tree diagrams, and combinations; and	Basic Algebra Shape-Up Set 1
Probability and statistics	(6.9) The student uses experimental and theoretical probability to make predictions.	(B) find the probabilities of a simple event and its complement and describe the relationship between the two.	Basic Algebra Shape-Up Set 1
Probability and statistics	(6.10) The student uses statistical representations to analyze data.	(A) draw and compare different graphical representations of the same data;	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Probability and statistics	(6.10) The student uses statistical representations to analyze data.	(B) use median, mode, and range to describe data;	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Probability and statistics	(6.10) The student uses statistical representations to analyze data.	(C) sketch circle graphs to display data; and	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Probability and statistics	(6.10) The student uses statistical representations to analyze data.	(D) solve problems by collecting, organizing, displaying, and interpreting data.	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1

Underlying processes and mathematical tools	(6.11) The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.11) The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.11) The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.11) The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.12) The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models.	(A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models; and	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.12) The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models.	(B) evaluate the effectiveness of different representations to communicate ideas.	Word Problem Shape-Up Set 1, 2, 3
Underlying processes and mathematical tools	(6.13) The student uses logical reasoning to make conjectures and verify conclusions.	(A) make conjectures from patterns or sets of examples and nonexamples; and	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Underlying processes and mathematical tools	(6.13) The student uses logical reasoning to make conjectures and verify conclusions.	(B) validate his/her conclusions using mathematical properties and relationships.	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1

Grade 7

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(7.1) The student represents and uses rational numbers in a variety of equivalent forms.	(A) compare and order non-negative rational numbers;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Number, operation, and quantitative reasoning	(7.1) The student represents and uses rational numbers in a variety of equivalent forms.	(B) convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(7.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(A) represent multiplication and division situations involving fractions and decimals with concrete models, pictures, words, and numbers;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(7.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(B) use addition and subtraction to solve problems involving fractions and decimals;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(7.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(C) use models to add, subtract, multiply, and divide integers and connect the actions to algorithms;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(7.2) The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.	(D) use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Patterns, relationships, and algebraic thinking	(7.3) The student solves problems involving proportional relationships.	(B) estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Patterns, relationships, and algebraic thinking	(7.4) The student represents a relationship in numerical, geometric, verbal, and symbolic form.	(A) generate formulas involving conversions, perimeter, area, circumference, volume, and scaling;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1
Patterns, relationships, and algebraic thinking	(7.5) The student uses equations to solve problems.	(B) formulate a possible problem situation when given a simple equation.	Word Problem Shape-Up Set 1, 2, 3
Probability and statistics	(7.10) The student recognizes that a physical or mathematical model can be used to describe the probability of real-life events.	(A) construct sample spaces for compound events (dependent and independent);	Basic Algebra Shape-Up Set 1
Probability and statistics	(7.12) The student uses measures of central tendency and range to describe a set of data.	(A) describe a set of data using mean, median, mode, and range;	Word Problem Shape-Up Set 1; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1

Grade 8

Subhead	Learning Standard	Benchmark	Merit Software
Number, operation, and quantitative reasoning	(8.1) The student understands that different forms of numbers are appropriate for different situations.	(A) compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(8.1) The student understands that different forms of numbers are appropriate for different situations.	(B) select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(8.1) The student understands that different forms of numbers are appropriate for different situations.	(C) approximate (mentally and with calculators) the value of irrational numbers as they arise from problem situations (π , $\sqrt{2}$); and	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(8.2) The student selects and uses appropriate operations to solve problems and justify solutions.	(A) select and use appropriate operations to solve problems and justify the selections;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Number, operation, and quantitative reasoning	(8.2) The student selects and uses appropriate operations to solve problems and justify solutions.	(B) add, subtract, multiply, and divide rational numbers in problem situations;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(8.3) The student identifies proportional relationships in problem situations and solves problems.	(A) compare and contrast proportional and non-proportional relationships;	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(8.3) The student identifies proportional relationships in problem situations and solves problems.	(B) estimate and find solutions to application problems involving percents and proportional relationships such as similarity and rates.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Patterns, relationships, and algebraic thinking	(8.11) The student applies concepts of theoretical and experimental probability to make predictions.	(B) use theoretical probabilities and experimental results to make predictions and decisions;	Basic Algebra Shape-Up Set 1
Underlying processes and mathematical tools.	(8.14) The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;	Word Problem Shape-Up Set 1, 2, 3

Underlying processes and mathematical tools.	(8.14) The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	Word Problem Shape-Up Set 1, 2, 3
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Grades 9-12

Subhead	Learning Standard	Performance Descriptions	Merit Software
Algebra 1 - (c) Linear functions	(1) The student understands that linear functions can be represented in different ways and translates among their various representations. Following are performance descriptions.	(A) The student determines whether or not given situations can be represented by linear functions.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(1) The student understands that linear functions can be represented in different ways and translates among their various representations. Following are performance descriptions.	(B) The student determines the domain and range values for which linear functions make sense for given situations.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(1) The student understands that linear functions can be represented in different ways and translates among their various representations. Following are performance descriptions.	(C) The student translates among and uses algebraic, tabular, graphical, or verbal descriptions of linear functions.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(3) The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.	(A) The student analyzes situations involving linear functions and formulates linear equations or inequalities to solve problems.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(3) The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.	(B) The student investigates methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, selects a method, and solves the equations and inequalities.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(3) The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.	(C) For given contexts, the student interprets and determines the reasonableness of solutions to linear equations and inequalities.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(4) The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. Following are performance descriptions.	(A) The student analyzes situations and formulates systems of linear equations to solve problems.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Algebra 1 - (c) Linear functions	(4) The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. Following are performance descriptions.	(B) The student solves systems of linear equations using concrete models, graphs, tables, and algebraic methods.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1 - (c) Linear functions	(4) The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. Following are performance descriptions.	(C) For given contexts, the student interprets and determines the reasonableness of solutions to systems of linear equations.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Algebra 1-(d) Quadratic and other nonlinear functions	(3) The student understands there are situations modeled by functions that are neither linear nor quadratic and models the situations. Following are performance descriptions.	(A) The student uses patterns to generate the laws of exponents and applies them in problem-solving situations.	Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2