

**New Jersey Core Curriculum Content Standards
correlated to
Merit Software Math Programs**

The New Jersey Core Curriculum Content Standards for language arts literacy capture language experiences all children need in order to grow intellectually, socially, and emotionally in classrooms across the curriculum. The standards, developed in July 2002, are intended to promote students' capacities to construct meaning in any arena, with others as well as on their own. If students learn to read, write, speak, listen, and view critically, strategically, and creatively, and if they learn to use these arts individually and with others, they will have the literacy skills they need to discover personal and shared meaning throughout their lives.

Merit's Math programs address the following New Jersey Core Curriculum Content Standards:

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Grade 3

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	1. Use real-life experiences, physical materials, and technology to construct meanings for numbers <ul style="list-style-type: none"> • Whole numbers through hundred thousands • Commonly used fractions (denominators of 2, 3, 4, 5, 6, 8, 10) as part of a whole, as a subset of a set, and as a location on a number line 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	2. Demonstrate an understanding of whole number place value concepts.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	3. Identify whether any whole number is odd or even.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	4. Explore the extension of the place value system to decimals through hundredths.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	5. Understand the various uses of numbers. <ul style="list-style-type: none"> Counting, measuring, labeling (e.g., numbers on baseball uniforms) 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	6. Compare and order numbers.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>1. Develop the meanings of the four basic arithmetic operations by modeling and discussing a large variety of problems.</p> <ul style="list-style-type: none"> • Addition and subtraction: joining, separating, comparing • Multiplication: repeated addition, area/array • Division: repeated subtraction, sharing 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>2. Develop proficiency with basic multiplication and division number facts using a variety of fact strategies (such as "skip counting" and "repeated subtraction").</p>	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>3. Construct, use, and explain procedures for performing whole number calculations with:</p> <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>4. Use efficient and accurate pencil-and-paper procedures for computation with whole numbers.</p> <ul style="list-style-type: none"> • Addition of 3-digit numbers • Subtraction of 3-digit numbers • Multiplication of 2-digit numbers by 1-digit numbers 	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	5. Count and perform simple computations with money. <ul style="list-style-type: none"> • Cents notation (¢) 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	7. Check the reasonableness of results of computations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	1. Judge without counting whether a set of objects has less than, more than, or the same number of objects as a reference set.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	2. Construct and use a variety of estimation strategies (e.g., rounding and mental math) for estimating both quantities and the result of computations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	3. Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	4. Use estimation to determine whether the result of a computation (either by calculator or by hand) is reasonable.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	5. Monitor their progress and reflect on the process of their problem solving activity.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	3. Recognize that mathematics is used in a variety of contexts outside of mathematics.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	D. Reasoning	6. Evaluate examples of mathematical reasoning and determine whether they are valid.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	2. Select, apply, and translate among mathematical representations to solve problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	3. Use representations to model and interpret physical, social, and mathematical phenomena.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	4. Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 4

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	1. Use real-life experiences, physical materials, and technology to construct meanings for numbers <ul style="list-style-type: none"> • Whole numbers through millions • Commonly used fractions (denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 16) as part of a whole, as a subset of a set, and as a location on a number line • Decimals through hundredths 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	2. Demonstrate an understanding of place value concepts.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	3. Demonstrate a sense of the relative magnitudes of numbers.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	<p>4. Understand the various uses of numbers.</p> <ul style="list-style-type: none"> Counting, measuring, labeling (e.g., numbers on baseball uniforms), locating (e.g., Room 235 is on the second floor) 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	<p>5. Use concrete and pictorial models to relate whole numbers, commonly used fractions, and decimals to each other, and to represent equivalent forms of the same number.</p>	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>1. Develop the meanings of the four basic arithmetic operations by modeling and discussing a large variety of problems.</p> <ul style="list-style-type: none"> Addition and subtraction: joining, separating, comparing Multiplication: repeated addition, area/array Division: repeated subtraction, sharing 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	<p>2. Develop proficiency with basic multiplication and division number facts using a variety of fact strategies (such as "skip counting" and "repeated subtraction").</p>	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	3. Construct, use, and explain procedures for performing whole number calculations with: <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	4. Use efficient and accurate pencil-and-paper procedures for computation with whole numbers. <ul style="list-style-type: none"> • Addition of 3-digit numbers • Subtraction of 3-digit numbers • Multiplication of 2-digit numbers by 1-digit numbers • Division of 3-digit numbers by 1-digit numbers 	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	5. Construct and use procedures for performing decimal addition and subtraction.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	6. Count and perform simple computations with money. <ul style="list-style-type: none"> • Standard dollars and cents notation 	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	7. Select pencil-and-paper, mental math, or a calculator as the appropriate computational method in a given situation depending on the context and numbers.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	8. Check the reasonableness of results of computations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	9. Use concrete models to explore addition and subtraction with fractions.	Word Problem Shape-Up Set 1, 2, 3: Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	10. Understand and use the inverse relationships between addition and subtraction and between multiplication and division.	Word Problem Shape-Up Set 1, 2, 3: Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	1. Judge without counting whether a set of objects has less than, more than, or the same number of objects as a reference set.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	2. Construct and use a variety of estimation strategies (e.g., rounding and mental math) for estimating both quantities and the result of computations.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	3. Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	4. Use estimation to determine whether the result of a computation (either by calculator or by hand) is reasonable.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	5. Monitor their progress and reflect on the process of their problem solving activity.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	3. Recognize that mathematics is used in a variety of contexts outside of mathematics.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	D. Reasoning	6. Evaluate examples of mathematical reasoning and determine whether they are valid.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	2. Select, apply, and translate among mathematical representations to solve problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	3. Use representations to model and interpret physical, social, and mathematical phenomena.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	4. Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
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Grade 5

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	1. Use real-life experiences, physical materials, and technology to construct meanings for numbers (unless otherwise noted, all indicators for grade 5 pertain to these sets of numbers as well: All fractions as part of a whole, as subset of a set, as a location on a number line, and as divisions of whole numbers and all decimals.)	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	2. Recognize the decimal nature of United States currency and compute with money.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	3. Demonstrate a sense of the relative magnitudes of numbers.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	4. Use whole numbers, fractions, and decimals to represent equivalent forms of the same number.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	5. Develop and apply number theory concepts in problem solving situations. (Primes, factors, multiples)	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	6. Compare and order numbers.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	1. Recognize the appropriate use of each arithmetic operation in problem situations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	2. Construct, use, and explain procedures for performing addition and subtraction with fractions and decimals with: pencil-and-paper, mental math, calculator	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	3. Use an efficient and accurate pencil-and-paper procedure for division of a 3-digit number by a 2-digit number.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	4. Select pencil-and-paper, mental math, or a calculator as the appropriate computational method in a given situation depending on the context and numbers.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	5. Check the reasonableness of results of computations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	6. Understand and use the various relationships among operations and properties of operations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	1. Use a variety of estimation strategies for both number and computation.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	2. Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	3. Determine the reasonableness of an answer by estimating the result of operations.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	4. Determine whether a given estimate is an overestimate or an underestimate.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	4. Determine whether a given estimate is an overestimate or an underestimate.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	5. Monitor their progress and reflect on the process of their problem solving activity.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	3. Recognize that mathematics is used in a variety of contexts outside of mathematics.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	D. Reasoning	6. Evaluate examples of mathematical reasoning and determine whether they are valid.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	2. Select, apply, and translate among mathematical representations to solve problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	3. Use representations to model and interpret physical, social, and mathematical phenomena.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	4. Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	1. Use real-life experiences, physical materials, and technology to construct meanings for numbers (unless otherwise noted, all indicators for grade 6 pertain to these sets of numbers as well; all integers; all fractions as part of a whole, as subset of a set, as a location on a number line, and as divisions of whole numbers; all decimals.	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	7. Develop and apply number theory concepts in problem solving situations; primes, factors, multiples; common multiples, common factors.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	1. Recognize the appropriate use of each arithmetic operation in problem situations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	2. Construct, use, and explain procedures for performing addition and subtraction with fractions and decimals with: <ul style="list-style-type: none"> • pencil-and-paper • mental math • calculator 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	4. Select pencil-and-paper, mental math, or a calculator as the appropriate computational method in a given situation depending on the context and numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	6. Check the reasonableness of results of computations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	8. Understand and apply the standard algebraic order of operations for the four basic operations, including appropriate use of parentheses.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	2. Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	D. Units of Measurement	3. Convert measurement units within a system (e.g., 3 feet = ___ inches).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	A. Patterns	1. Recognize, describe, extend, and create patterns involving whole numbers - Descriptions using tables, verbal rules, simple equations, and graphs.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	B. Functions & Relationships	1. Describe arithmetic operations as functions, including combining operations and reversing them.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	C. Modeling	1. Use number sentences to model situations -using variables to represent unknown quantities; using concrete materials, tables, graphs, verbal rules, algebraic expressions/equations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	3. Respond to questions about data and generate their own questions and hypotheses.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	2. Determine probability using intuitive, experimental, and theoretical methods (e.g., using model of picking items of different colors from a bag); given numbers of various types of items in a bag, what is the probability that an item of one type will be picked; given data obtained experimentally, what is the likely distribution of items in the bag	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	C. Discrete Mathematics— Systematic Listing and Counting	2. Explore the multiplication principle of counting in simple situations by representing all possibilities in an organized way (e.g., you can make $3 \times 4 = 12$ outfits using 3 shirts and 4 skirts).	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	5. Monitor their progress and reflect on the process of their problem solving activity.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	3. Recognize that mathematics is used in a variety of contexts outside of mathematics.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	D. Reasoning	6. Evaluate examples of mathematical reasoning and determine whether they are valid.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	2. Select, apply, and translate among mathematical representations to solve problems.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	E. Representations	3. Use representations to model and interpret physical, social, and mathematical phenomena.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	4. Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
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Grade 7

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 7 pertain to these sets of numbers as well): rational numbers, percents, whole numbers with exponents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	2. Demonstrate a sense of the relative magnitudes of numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	3. Understand and use ratios, proportions, and percents (including percents greater than 100 and less than 1) in a variety of situations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	1. Use and explain procedures for performing calculations with integers and all number types named above with: paper and pencil, mental math, and calculator.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	3. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	1. Use equivalent representations of numbers such as fractions, decimals, and percents to facilitate estimation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	2. Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	1. Use graphing techniques on a number line: absolute value; arithmetic operations represented by vectors (arrows) (e.g., " $-3 + 6$ " is "left 3, right 6").	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	2. Solve simple linear equations informally and graphically: multi-step, integer coefficients only (although answers may not be integers); using paper-and-pencil, calculators, graphing calculators, spreadsheets, and other technology.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	3. Create, evaluate, and simplify algebraic expressions involving variables: order of operations, including appropriate use of parentheses; substitution of a number for a variable.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	4. Understand and apply the properties of operations, numbers, equations, and inequalities: additive inverse; multiplicative inverse.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	2. Make inferences and formulate and evaluate arguments based on displays and analysis of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	1. Interpret probabilities as ratios, percents, and decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	3. Estimate probabilities and make predictions based on experimental and theoretical probabilities.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	C. Discrete Mathematics— Systematic Listing and Counting	1. Apply the multiplication principle of counting: permutations: ordered situations with replacement (e.g., number of possible license plates) vs. ordered situations without replacement (e.g., number of possible slates of 3 class officers from a 23 student class) .	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	4. Pose problems of various types and levels of difficulty.	Word Problem Shape-Up Set 1, 2, 3

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	1. Recognize recurring themes across mathematical domains (e.g., patterns in number, algebra, and geometry).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Grade 8

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	<p>1. Extend understanding of the number system by constructing meanings for the following:</p> <ul style="list-style-type: none"> • rational numbers • percents • whole numbers with exponents • Roots • Absolute values • Numbers represented in scientific notation 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	2. Demonstrate a sense of the relative magnitudes of numbers.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	3. Understand and use ratios, proportions, and percents (including percents greater than 100 and less than 1) in a variety of situations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	4. Compare and order numbers of all named types.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	A. Number Sense	6. Recognize that repeating decimals correspond to fractions and determine their fractional equivalents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	1. Use and explain procedures for performing calculations with integers and all number types named above with: <ul style="list-style-type: none"> • paper and pencil • mental math • calculator. 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	4. Solve problems involving proportions and percents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	5. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	2. Use equivalent representations of numbers such as fractions, decimals, and percents to facilitate estimation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	3. Recognize the limitations of estimation and assess the amount of error resulting from estimation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	1. Solve problems requiring calculations that involve different units of measurement within a measurement system (e.g., 4'3" plus 7'10" equals 12'1").	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	2. Use approximate equivalents between standard and metric systems to estimate measurements (e.g., 5 kilometers is about 3 miles).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	3. Recognize that the degree of precision needed in calculations depends on how the results will be used and the instruments used to generate the measurements.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	4. Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	5. Recognize that all measurements of continuous quantities are approximations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	D. Units of Measurement	6. Solve problems that involve compound measurement units, such as speed (miles per hour), air pressure (pounds per square inch), and population density (persons per square mile).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	<p>1. Use graphing techniques on a number line:</p> <ul style="list-style-type: none"> absolute value arithmetic operations represented by vectors (arrows) (e.g., "$-3 + 6$" is "left 3, right 6"). 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	<p>2. Solve simple linear equations informally and graphically:</p> <ul style="list-style-type: none"> multi-step, integer coefficients only (although answers may not be integers) using paper-and-pencil, calculators, graphing calculators, spreadsheets, and other technology. 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	<p>3. Solve simple linear inequalities.</p>	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	<p>4. Create, evaluate, and simplify algebraic expressions involving variables:</p> <ul style="list-style-type: none"> order of operations, including appropriate use of parentheses distributive property substitution of a number for a variable translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	D. Procedures	<p>5. Understand and apply the properties of operations, numbers, equations, and inequalities:</p> <ul style="list-style-type: none"> • Additive inverse • Multiplicative inverse • Addition and multiplication properties of equality • Addition and multiplication properties of inequalities 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	<p>1. Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode).</p> <ul style="list-style-type: none"> • Type of display most appropriate for given data • Box-and-whisker plot, upper quartile, lower quartile • Scatter plot • Calculators and computer used to record and process information • Finding the median and mean (weighted average) using frequency data. • Effect of additional data on measures of central tendency 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	2. Make inferences and formulate and evaluate arguments based on displays and analysis of data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	3. Estimate lines of best fit and use them to interpolate within the range of the data.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	4. Use surveys and sampling techniques to generate data and draw conclusions about large groups.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	1. Interpret probabilities as ratios, percents, and decimals.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	2. Determine probabilities of compound events.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	3. Explore the probabilities of conditional events (e.g., if there are seven marbles in a bag, three red and four green, what is the probability that two marbles picked from the bag, without replacement, are both red).	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	4. Model situations involving probability with simulations (using spinners, dice, calculators and computers) and theoretical models. · Frequency, relative frequency	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	5. Estimate probabilities and make predictions based on experimental and theoretical probabilities.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	6. Play and analyze probability-based games, and discuss the concepts of fairness and expected value.	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	C. Discrete Mathematics— Systematic Listing and Counting	1. Apply the multiplication principle of counting: permutations: <ul style="list-style-type: none"> • Permutations: ordered situations with replacement (e.g., number of possible license plates) vs. ordered situations without replacement (e.g., number of possible slates of 3 class officers from a 23 student class) • Factorial notation • Concept of combinations (e.g., number of possible delegations of 3 out of 23 students) 	Word Problem Shape-Up Set 1, 2, 3; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	4. Pose problems of various types and levels of difficulty.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	1. Recognize recurring themes across mathematical domains (e.g., patterns in number, algebra, and geometry).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	F. Technology	1. Use technology to gather, analyze, and communicate mathematical information.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
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Grades 9-12

Subhead	Standard	Strand	Learning Expectation	Merit Software
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	1. Extend understanding and use of operations to real numbers and algebraic procedures.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	B. Numerical Operations	2. Develop, apply, and explain methods for solving problems involving rational and negative exponents.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.1 ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.	C. Estimation	1. Recognize the limitations of estimation, assess the amount of error resulting from estimation, and determine whether the error is within acceptable tolerance limits.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.	B. Transforming Shapes	1. Determine, describe, and draw the effect of a transformation, or a sequence of transformations, on a geometric or algebraic object, and, conversely, determine whether and how one object can be transformed to another by a transformation or a sequence of transformations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	A. Patterns	1. Use models and algebraic formulas to represent and analyze sequences and series. <ul style="list-style-type: none"> • Explicit formulas for nth terms • Sums of finite arithmetic series • Sums of finite and infinite geometric series 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	A. Patterns	3. Use inductive reasoning to form generalizations.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.	A. Patterns	<p>1. Use functions to model real-world phenomena and solve problems that involve varying quantities.</p> <ul style="list-style-type: none"> • Linear, quadratic, exponential, periodic (sine and cosine), and step functions (e.g., price of mailing a first-class letter over the past 200 years) • Direct and inverse variation • Absolute value • Expressions, equations and inequalities • Same function can model variety of phenomena • Growth/decay and change in the natural world • Applications in mathematics, biology, and economics (including compound interest) 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
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Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	<p>1. Use surveys and sampling techniques to generate data and draw conclusions about large groups.</p> <ul style="list-style-type: none"> Advantages/disadvantages of sample selection methods (e.g., convenience sampling, responses to survey, random sampling) 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	A. Data Analysis	<p>2. Evaluate the use of data in real-world contexts.</p> <ul style="list-style-type: none"> Accuracy and reasonableness of conclusions drawn Bias in conclusions drawn (e.g., influence of how data is displayed) Statistical claims based on sampling 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

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Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	1. Calculate the expected value of a probability-based game, given the probabilities and payoffs of the various outcomes, and determine whether the game is fair.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

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Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	4. Determine probabilities in complex situations. <ul style="list-style-type: none"> • Conditional events • Complementary events • Dependent and independent events 	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	B. Probability	5. Estimate probabilities and make predictions based on experimental and theoretical probabilities.	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	A. Problem Solving	4. Pose problems of various types and levels of difficulty.	Word Problem Shape-Up Set 1, 2, 3
Math	STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.	C. Connections	1. Recognize recurring themes across mathematical domains (e.g., patterns in number, algebra, and geometry).	Word Problem Shape-Up Set 1, 2, 3; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
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