

Tennessee Curriculum Standards Correlated to Merit Software Math Programs

By End of Grade five

Standard	Expectation	Merit Software
<p>Understand numbers, ways of representing numbers, relationships among numbers, and number systems.</p>	<ul style="list-style-type: none"> a. use various models to show relationships among whole numbers, fractions, mixed numbers, and decimals b. model proper fractions, improper fractions, and mixed numbers; c. show the relationship between improper fractions and mixed numbers d. recognize and generate equivalent forms of commonly used fractions, decimals, and percents e. recognize relationships among commonly used fractions and decimals 	<p>Word Problem Shape-Up</p> <p>Fraction Shape-Up</p>

By End of Grade Eight

Standard	Expectations	Merit Software
<p>Understand numbers, ways of representing numbers, relationships among numbers, and number systems.</p>	<ul style="list-style-type: none"> a. recognize the place value of a given digit; b. use exponents to express a monomial written in expanded form; c. determine the square root of perfect squares; d. work flexibly with fractions, decimals, and percents to solve problems; e. compare and order fractions, decimals, and percents; f. use appropriate mathematical language and symbols to express numerical relationships g. understand and use ratios and proportions to represent quantitative relationships; h. recognize and use exponential, scientific, and calculator notation to represent large numbers in real- 	<p>Word Problem Shape-Up</p> <p>Pre-Algebra Shape-Up</p>

	<p>world situations;</p> <ul style="list-style-type: none">i. demonstrate understanding of opposites, reciprocals, and integers;j. identify the opposite of a rational number;k. use concrete, pictorial, and symbolic representations of integers;	
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By End of Grade Twelve

Objective	Expectations	Merit Software
<p>Students will recognize, represent, model, and apply real numbers and operations verbally, physically, symbolically, and graphically</p>	<ul style="list-style-type: none"> a. Demonstrate an understanding of the subsets, properties, and operations of the real number system; b. Demonstrate an understanding of the relative size of rational and irrational numbers; c. Articulate, model, and apply the concept of inverse (e.g., opposites, reciprocals, and powers and roots); d. Describe, model, and apply inverse operations; e. Apply number theory concepts (e.g., primes, factors, divisibility and multiples) in mathematical problem solving; f. Connect graphical and symbolic representations of absolute value; g. Use real numbers to represent real-world applications (e.g., slope, rate of change, probability, 	<p>Word Problem Shape-Up</p> <p>Basic Algebra Shape-Up</p>

	<p>and proportionality);</p> <ul style="list-style-type: none">h. Use a variety of notations appropriately (e.g. exponential, functional, square root);i. Select and apply an appropriate method (i.e., mental mathematics, paper and pencil, or technology) for computing with real numbers, and evaluate the reasonableness of results;j. Perform operations on algebraic expressions and informally justify the procedures chosen;k. Perform operations on matrices in real-world problem solving	
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