

Mississippi Curriculum Matrix for Mathematics

Mississippi Mathematics Competencies/Objectives Pre-Algebra	Common Core Mathematics	National Essential Skills Study (NESS) Rankings		NESS	MCT2	Priority
	Domains/Clusters/Standards Grade 8	Rank				
NUMBER AND OPERATIONS						
1. Apply concepts and perform basic operations using real numbers in real-world contexts.						
a. Define, classify, and order rational and irrational numbers and their subsets. (DOK 1)	<p><u>The Number System</u> Know that there are numbers that are not rational, and approximate them by rational numbers.</p> <p>1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> <p>2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). <i>For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i></p> <p><u>Expressions & Equations</u> Work with radicals and integer exponents.</p> <p>2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>	M35	Use the properties of real (rational and irrational) numbers and demonstrate understanding of ordering and absolute value.	M	H	H

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b. Formulate and solve standard and real-life problems involving addition, subtraction, multiplication, and division of rational numbers. (DOK 2)	<u>Expressions & Equations</u> Analyze and solve linear equations and pairs of simultaneous linear equations. 7. Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	M1	Perform operations fluently with positive and negative numbers, including decimals, ratios, percents, and fractions, and show reasoning to justify results.	H	H	H
c. Apply the concepts of Greatest Common Factor (GCF) and Least Common Multiple (LCM) to monomials with variables. (DOK 2)	<i>There is no Mississippi Mathematics Objective-Common Core alignment.</i>	M29	Factor a composite number into its prime components and use least common denominators or least common multiples to solve equations.	M	H	H
		M36	Simplify polynomials by performing operations (addition, subtraction, multiplication, and division) to simplify expressions (e.g., $(2a + 2) + (3a - 1) = 5a + 1$).			