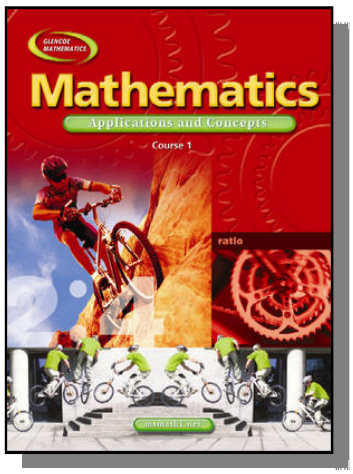
Glencoe

**Mississippi**
Mathematics Frameworks
6th Grade




# Mathematics:

## Applications and Concepts

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| Competencies and Objectives | | Page References |
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| **Content Strand: Numbers and Operations** | | |
| **1 Analyze numbers using place value, prime factorization, and exponents. Solve problems involving basic operations of rational numbers greater than or equal to zero.** | | |
| 1a | Compare and order rational numbers using symbols (<, >, and =) and a number line. | SE: 100-101, 108-110, 115, 198-201, 294-298, 588-589 |
| 1b | Use estimation strategies to determine the reasonableness of results in a variety of situations including rational number computations. | SE: 121-124, 135-138, 141-143, 144-148, 152-155, 156-157, 158-160, 228-231, 240-243, 261-264, 490-493, 494-497, 570-573 |
| 1c | Determine the Greatest Common Factor (GCF) and Least Common Multiple (LCM) of two numbers. | SE: 177-180, 194-197 |
| 1d | Compute using basic operations with fractions and mixed numbers. Express answers in the simplest form. | SE: 228-231, 233, 234,235-238, 240-243, 244-247, 259-260, 261-264, 265-267, 269, 270-271, 272-275, 276-279 |
| 1e | Solve problems by dividing whole and decimal numbers by decimals and interpret the quotient and remainder within the problem context. | SE: 144-147, 149, 150-151, 152-155 |
| 1f | Explain the relationship(s) among fractions, decimals, and percents and model and represent a specific quantity in multiple ways. | SE: 202-205, 206-209, 400-403, 404-406 |
| 1g | Model addition and subtraction of integers with physical materials and the number line. | SE: 300-303, 304-307, 309 |
| 1h | Solve problems by finding the percentage of a number including percentages greater than 100 and less than 1. | SE: 407-408, 409-412 |

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| 1i | Multiply four-digit numbers by two-digit numbers (including whole numbers and decimals). | SE: 135-138, 141-143 |
| 1j | Explain the meaning of multiplication and division of rational numbers. | SE: 134, 135-138, 139-140, 144-147, 150-151, 152-155, 259-260, 261-264, 265-267, 270-271, 272-275, 276-279, 310-313, 316-319 |
| 1k | Explain the meaning and relationship between absolute value and opposites. | SE: 294-298 |
| **ntent Strand: Algebra** | | |
| **2. Use algebraic functions, patterns, and language across a variety of context.** | | |
| 2a | Solve simple equations using guess-and-check, diagrams, properties, or inspection, explaining the process used. | SE: 34-37, 337-338, 339-342, 343, 344-347, 350-353, 355-357 |
| 2b | Complete a function table based on a given rule. | SE: 360-361, 362-365, 366-369 |
| 2c | Formulate algebraic expressions, equations, and inequalities to reflect a given situation. | SE: 28-31, 34-37, 339-342, 344-347, 350-353, 354, 355-357 |
| 2d | State the following properties using variables and apply them in solving problems:<br>• Zero property of multiplication<br>• Inverse properties of addition/subtraction and multiplication/division<br>• Commutative and associative properties of addition and multiplication<br>• Identity properties of addition and multiplication<br>• Distributive properties of multiplication over addition and subtraction | SE: 332, 333-336, 337-338, 339-342, 343, 344-347, 349, 350-353, 355-357, 358-359; *See msmath1.net.* |
| 2e | Describe a rule for a function table using words, symbols, and points on a graph and vice versa. | SE: 360-361, 362-365, 366-369 |
| **ntent Strand: Geometry** | | |
| 3. Analyze geometric relationships of lines, angles, two- and three-dimensional shapes, and transformations. | | |
| 3a | Compare, classify, and construct transformations (reflections, translations, and rotations). | SE: 532-533 |
| 3b | Construct three-dimensional figures using manipulatives and generalize the relationships among vertices, faces, and edges (such as Euler's | SE: 564-566, 567, 570-573, 574, 575-578; *See msmath1.net.* |

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| | Formula). | |
| 3c | Draw, label, and classify polygons to include regular and irregular shapes. Identify congruent and symmetrical figures | SE: 522-525, 526-527, 534-536 |
| 3d | Identify, estimate, and compare right, acute, and obtuse angles. | SE: 506-509, 510-512 |
| 3e | Explain the relationships between corresponding parts of the pre-image and image of a dilation. | *See msmath1.net.* |
| **Content Strand: Measurement** | | |
| 4. Apply geometric formulas and standard (English and Metric) units of measurement in mathematical and real-life situations. | | |
| 4a | Convert units within a given measurement system to solve problems. | SE: 465-468, 470-473, 474-475, 490-493, 494-497 |
| 4b | Calculate the perimeter and area of regular and irregular shapes using a variety of methods. | SE: 158-160, 161-164, 464, 546-549, 551-554, 555, 556-559, 563 |
| 4c | Determine the radius, diameter, and circumference of a circle. | SE: 161-164, 556-559 |
| 4d | Use scale factors to perform dilations and to solve ratio and proportion problems. | SE: 391-393, 394 |
| 4e | Predict and calculate the volume of prisms. | SE: 570-573 |
| 4f | Apply techniques and tools to accurately find length, area, and angle measures to appropriate levels of precision. | SE: 465-468, 474-475, 476-479, 480-481, 483, 506-509, 510-512, 515-517, 546-549, 550, 551-554, 555, 556-559 |
| 4g | Explain the relationship of circumference of a circle to its diameter, linking to *pi*. | SE: 556-559 |
| **Content Strand: Data Analysis & Probability** | | |
| 5. Collect, organize, interpret, analyze, and display data. Apply concepts of probability to solve problems. | | |
| 5a | Construct, interpret, and explain line graphs, double bar graphs, frequency plots, stem-and-leaf plots, histograms, and box-and-whisker plots. | SE: 50-53, 54-55, 56-59, 60-61, 66-69, 71, 72-75, 84-85, 86-89, 219-222 |
| 5b | Determine how changes in data affect mean, median, mode, and range. | SE: 76-78, 80-83, 84-85 |
| 5c | Predict trends based on graphical representation. | SE: 66-69 |