

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Grade 7 Mathematics Standards

(Test items include Multiple Choice, Gridded, Open-Ended. MC and G count 1 pt. each; OE count 3 pts. each.)

<p style="text-align: center;">AL COS Standards <a href="http://www.alsde.edu">www.alsde.edu</a></p>	<p style="text-align: center;">Months to be Taught Final ARMT Review Weeks 1-3</p>	<p style="text-align: center;">Content Vocabulary (Word Walls)</p>	<p style="text-align: center;">Test Vocabulary/ Bloom's Level (Word Walls)</p>	<p>Rigor Level I-introduces content/basic theory Rigor Level II-connects to prior knowledge Rigor Level III-focuses on highly developed skills, integrates complex skills Rigor Level IV-demonstrates skills in Independent groups (project based); includes use of technology</p>
<p><b>1. Demonstrate computational fluency with addition, subtraction, and multiplication of integers.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Grid- 2 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Developing algorithms for performing operations on integers. Ex. Determining a systematic set of steps that can be used to subtract integers.</li> <li>• Using inverse properties of addition and of multiplication.</li> </ul> <p><b>Resources used:</b></p>	<p style="text-align: center;">Sept. – Oct.</p>	<p style="text-align: center;">Operations, integers</p>	<p style="text-align: center;">Levels 1,2</p>	
<p><b>2. Use order of operations to evaluate numerical expressions.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Grid- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Computing absolute values.</li> <li>• Finding square roots of perfect squares through 225.</li> <li>• Evaluating powers.</li> <li>• Applying properties of operations to compute with integers, fractions, and decimals.</li> </ul> <p><b>Resources used:</b></p>	<p style="text-align: center;">August</p>	<p style="text-align: center;">Evaluate, expressions, operations, integers, brackets</p>	<p style="text-align: center;">Levels 1,2</p>	

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<p><b>3. Solve problems requiring the use of operations on rational numbers.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 8 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>Describing the method used.</li> <li>Determining the reasonableness of results.</li> <li>Using percents to solve problems, including problems involving discounts, taxes, commissions, and simple interest.</li> </ul> <p><b>Resources used:</b></p>	<p>Sept.</p>	<p>Operations, rational numbers, mixed numbers, common and uncommon denominators, improper fractions</p>	<p>NH – Not Here Levels I,II,III</p>	
<p><b>4. Express a pattern shown in a table, graph or chart as an algebraic equation.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 4 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>Recognizing the relationships between numerical patterns in tables and their respective graphs in the coordinate plane. Ex. Recognizing the pattern illustrated in both the table and graph as <math>y=2x</math>.</li> <li>Determining if a constant rate of change exists in a pattern.</li> </ul> <p><b>Resources used:</b></p>	<p>January</p>	<p>Equation, pattern, rational number</p>	<p>Levels 1, 2, 4</p>	

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<p><b>5. Translate verbal phrases into algebraic expressions and algebraic expressions into verbal phrases.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 4 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>Exhibiting understanding of a variable as an unknown quantity.</li> </ul> <p><b>Resources used:</b></p>	<p>Oct. – Nov.</p>	<p>Verbal phrases, expressions, rational number</p>	<p>Levels 1-2</p>	
<p><b>6. Solve one- and two-step equations.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 4 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>Solving inequalities in one variable.</li> <li>Graphing solution sets of inequalities on a number line.</li> <li>Recognizing properties of equality.</li> </ul> <p><b>Resources used:</b></p>	<p>Oct. – Nov.</p>	<p>One- and two-step equations, variable, rational number</p>	<p>Levels 1-3</p>	

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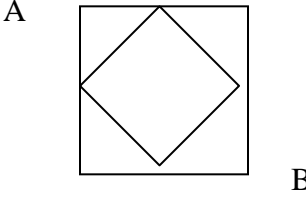
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<p><b>7. Determine the transformation(s), including translations, reflections, or rotations, used to alter the position of a polygon on the coordinate plane.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 4 items</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Determining the type of symmetry (rotational or line) found in a reflection or rotation.</li> <li>• Graphing transformations of quadrilaterals on the Cartesian plane by plotting the vertices.</li> <li>• Graphing figures which are similar to other figures using dilations.</li> </ul> <p><b>Resources used:</b></p>	<p>Feb.</p>	<p>Transformations, translations, reflections, rotations, polygon, coordinate plane, x-axis, y-axis, clockwise, counter-clockwise</p>	<p>Diagram Levels 1-2</p>	

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<p><b>8. Recognize geometric relationships among two-dimensional and three-dimensional objects.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 3 items</li> <li>Open-ended- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>Drawing geometric figures when given specified components, including base and height.</li> <li>Investigating properties and relationships among congruent figures</li> <li>Identifying geometric ideas in settings outside the mathematics classroom.</li> <li>Using networks to represent and solve problems. Ex. Find the number of paths from point A to point B</li> </ul> <div style="text-align: center;">  </div> <p><b>Resources used:</b></p>	<p>Jan.</p>	<p>2-D/3-D objects, congruent, quadrilaterals, parallel, similar, lateral faces, bases, isosceles, equilateral, scalene, corresponding, polygons, lines of symmetry, acute, right, obtuse triangles, vertices, edge, square, pyramid, rectangular prism, sphere, cylinders, pentagonal prism, faces, rhombus, parallelograms, hexagon, heptagon, pentagon, octagon, nonagon, decagon</p>	<p>Reasoning, explain, geometric relationships</p> <p>Levels 1-4</p>	

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<p><b>9. Solve problems involving circumference and area of circles.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Grid- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Estimating circumference, diameter, and area.</li> <li>• Determining appropriate units of measure to describe circumference, diameter, and area.</li> <li>• Measuring circumference and diameter using customary and metric units.</li> <li>• Using circumference and diameter to approximate the value of pi.</li> <li>• Identifying pi as an irrational number.</li> <li>• Developing formulas for determining circumference and area.</li> </ul> <p><b>Resources used:</b></p>	<p>Nov.-Dec.</p>	<p>Circumference, area, circles, pi, rational number, diameter, radius</p>	<p>Solve Levels 1, 3</p>	

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<p><b>10. Find the perimeter of polygons and the area of triangles and trapezoids.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Grid- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Develop formulas for determining perimeter and area of triangles and trapezoids.</li> </ul> <p><b>Resources used:</b></p>	<p style="text-align: center;">Nov.-Dec.</p>	<p>Perimeter, triangle, base, height, pentagon, polygons, trapezoid, rational numbers, area, parallelogram, right triangle, isosceles triangle, square</p>	<p style="text-align: center;">Least Level 3</p>	
<p><b>11. Solve problems involving ratios or rates, using proportional reasoning.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Open-ended- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Determining the unit rate.</li> <li>• Converting rates from one unit to another. Ex. Determining the number of minutes</li> </ul>	<p style="text-align: center;">Jan.-Feb.</p>	<p>Ratios, rates, proportional, reasoning, proportions, rational numbers, scale drawing, earn, save, maximum</p>	<p style="text-align: center;">Recipe, maintain</p>	

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<p>in three days.</p> <ul style="list-style-type: none"> <li>• Converting units of length, weight, or capacity from metric to customary and from customary to metric.</li> </ul> <p><b>Resources used:</b></p>				

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<p><b>12. Determine measures of central tendency (mean, median, and mode) and the range using a given set of data or graphs, including histograms, frequency tables, and stem-and-leaf plots.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 2 items</li> <li>• Grid- 2 items</li> <li>• Open-ended- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Creating histograms</li> </ul> <p><b>Resources used:</b></p>	<p>Feb.</p>	<p>Measures of central tendency, mean, median, mode, range, histogram, frequency tables, stem-and-leaf plots, average</p>	<p>Reasoning, explain Level 4</p>	

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<p><b>13. Determine the probability of a compound event.</b></p> <p>Ex. Finding the probability of selecting at random a hamburger and lemonade when choosing a sandwich and drink from two sandwich choices and three drink choices.</p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 2 items</li> <li>• Grid- 1 item</li> <li>• Open-ended- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Representing outcomes as a list, chart, picture, or tree diagram.</li> <li>• Determining the number of possible outcomes by using the fundamental counting principle or other techniques.</li> <li>• Modeling the probability of event through simulations with random numbers. Ex. Determining the probability of a baby being a boy by generating random numbers, using a number cube with odd numbers representing a boy, to simulate the outcomes.</li> </ul> <p><b>Resources used:</b></p>	<p>Feb.-March</p>	<p>Probability, even, odd, compound, event, coins, replacement, without replacement, random, experiment, theoretical</p>	<p>Explain, reasoning, justify</p> <p>Level 4</p>	