

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 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;"><b>AL COS Standards</b>  <a href="http://www.alsde.edu">www.alsde.edu</a>  <b>Sections-Classroom Improvement- Publications</b></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>
<b>Numbers and Operations</b>				
<p><b>1. Use various strategies and operations to solve problems involving real numbers.</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 6 items</li> <li>• Grid- 1 item</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Using alternative representations of rational numbers. Ex. models, drawings, grids, graphs.</li> <li>• Applying GCF, LCM, and prime and composite numbers, including the justification for the reasonableness of results, when working with rational numbers. Ex. A new music store is having a grand opening. Every 20<sup>th</sup> customer gets a free CD. Every 35<sup>th</sup> customer gets a free tote bag. The first customer to receive both gifts will be the 140<sup>th</sup> customer, because 140 is the LCM of 20 and 35. The answer (140<sup>th</sup>) is reasonable because it is larger than both 20 and 35. To say that the 5<sup>th</sup> customer, which is the GCF of 20 and 35, receives the gift is not reasonable because it is smaller than 20 and 35.</li> <li>• Applying proportional reasoning. Ex. The amount of rainfall recorded for a certain town in a 24-hour period is 16 inches. Since the rain fell 2 inches every 3 hours, 24 inches of rain will fall in 1 ½ days if the rain continues at the same rate.</li> <li>• Using vocabulary associated with sets, including union and intersection.</li> <li>• Determining whether a number is rational or irrational</li> <li>• Demonstrating computational fluency with operations on rational numbers</li> </ul> <p><b>Resources used:</b></p>	<p>Aug.-Sept.</p>	<p>Exactly, closest, least number, greatest, what is</p>	<p>Use, solve, which is one way (evaluate, analyze), at which  Level 3</p>	
	<p>Sept.</p>	<p>Equivalent to,</p>	<p>Simplify, equivalent way of</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>2. Simplify expressions containing natural number exponents by applying one or more of the laws of exponents.</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>Writing numbers using scientific notations.</li> </ul> <p><b>Resources used:</b></p>		expression, equivalent expressions, rectangular-shaped	expressing Level 3	
<p><b>3. Use order of operations to evaluate and simplify algebraic 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>Applying the substitution principle.</li> <li>Applying the properties of operations on rational numbers to evaluate and simplify algebraic expressions.</li> </ul> <p><b>Resources used:</b></p>	Sept.	Value of, denominator, perimeter	Another way of expressing Levels 2-3	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>
<b>Algebra</b>				
<p><b>4. Graph linear relations by plotting points or by using the slope and y-intercept. NOTE: HIGH PRIORITY STANDARD (critical thinking/analysis)</b></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice- 3 items</li> <li>• Open-ended- 2 items.</li> </ul> <p><b>Additional Minimum Required Content:</b></p> <ul style="list-style-type: none"> <li>• Determining slopes and y-intercepts of lines.</li> <li>• Calculating the slopes of a linear relation given as a table or graph.</li> <li>• Exhibiting conceptual understanding of various uses of variables.</li> </ul> <p><b>Resources used:</b></p>	<p>Jan.</p>	<p>Best represents, coordinate, graph, table, y-intercept, slope, x-intercept, linear function, coordinate plane, ordered pairs, axes,</p>	<p>Construct, create, provide, label</p> <p>Level 4</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;"><b>AL COS Standards</b>  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>5. Solve problems involving linear functions.</b>  <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>Identifying functions from information in tables sets of ordered pairs, equations, graphs, and mappings.</li> <li>Determining the rule that defines a function. Ex. Given a function table (Rule: <math>y=4.5x</math>)</li> </ul> <table border="0" style="margin-left: 40px;"> <tr> <td style="padding-right: 20px;">Cars Washed</td> <td>Money Made</td> </tr> <tr> <td style="padding-right: 20px;">Input (x)</td> <td>Output (y)</td> </tr> <tr> <td style="padding-right: 20px;">1</td> <td>\$4.50</td> </tr> <tr> <td style="padding-right: 20px;">2</td> <td>\$9.00</td> </tr> <tr> <td style="padding-right: 20px;">3</td> <td>\$13.50</td> </tr> <tr> <td style="padding-right: 20px;">4</td> <td>\$18.00</td> </tr> </table> <ul style="list-style-type: none"> <li>Classifying variables in a function as independent or dependent.</li> <li>Classifying relations as linear or nonlinear by examining tables, graphs, or simple equations.</li> </ul> <p><b>Resources used:</b></p>	Cars Washed	Money Made	Input (x)	Output (y)	1	\$4.50	2	\$9.00	3	\$13.50	4	\$18.00	<p>Oct.</p>	<p>Relationship, represents the translation, how many, solution, range, domain, function, linear</p>	<p>Which, what is, best represented, solve</p> <p>Level 3</p>	
Cars Washed	Money Made															
Input (x)	Output (y)															
1	\$4.50															
2	\$9.00															
3	\$13.50															
4	\$18.00															
<p><b>6. Solve multi-step linear equations, including equations requiring the use of the distributive property.</b></p> <p>Ex. solving <math>-3(x-5) - 6x = 2+ 4x</math></p> <p><b>ARMT Blueprint:</b></p> <ul style="list-style-type: none"> <li>Multiple Choice- 2 items</li> <li>Grid- 2 items</li> </ul> <p><b>Resources used:</b></p>	<p>Oct.</p>	<p>Multi-step, property</p>	<p>What is, require</p>													

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>
<b>Geometry</b>				
<p><b>7. Solve problems using the Pythagorean Theorem. NOTE: HIGH PRIORITY STANDARD (critical thinking/analysis)</b></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>• Applying the Triangle Inequality Theorem. Ex. determining if a triangle can be formed with sides of 1 inch, 2 inches, and 5 inches.</li> <li>• Verifying the Pythagorean Theorem.</li> <li>• Applying the Pythagorean Theorem to determine if a triangle is a right angle.</li> <li>• Applying the Pythagorean Theorem to find the missing length of a side of a right triangle.</li> <li>• Calculating distances on the coordinate plane using the Pythagorean Theorem.</li> </ul> <p><b>Resources used:</b></p>	Oct.	Has the greater, diagonal, rectangular, ramp, straight line distance, altitude, trapezoid, hypotenuse, leg, dimension, triangle	What is, if, which, make a sketch, draw, calculate, estimate, solve  Level 3	

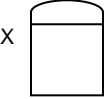
# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>8. Compare quadrilaterals, triangles, and solids using their properties and characteristics.</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>Developing mathematical arguments about the relationships among types of quadrilaterals and triangles.</li> <li>Identifying angle bisectors, perpendicular bisectors, congruent angles, and congruent figures.</li> <li>Constructing congruent and similar polygons, congruent angles, congruent segments, and parallel and perpendicular lines.</li> </ul> <p><b>Resources used:</b></p>	<p>Nov.</p>	<p>Always true, congruent, not true, transversal, intersect, measure, supplementary, complementary, isosceles, equilateral, rhombus</p>	<p>Which, must be true (justify), what is, If, compare</p> <p>Level 5</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p>AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</p>	<p>Months to                      be Taught                      Final ARMT                      Review                      Weeks 1-3</p>	<p>Content                      Vocabulary                      (Word Walls)</p>	<p>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>
Measurement				
<p><b>9. Determine the measures of special angle pairs, including adjacent, vertical, supplementary, and complementary angles, and angles formed by parallel lines cut by a transversal.</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>Resources used:</b></p>	<p>Dec.</p>	<p>Intersect,                      measure,                      transversal,                      parallel,                      intersect,                      complimentary,                      supplementary,                      vertices</p>	<p>What is, what is                      the value,                      determine</p> <p>Level 4</p>	
<p><b>10. Find the perimeter and area of regular and irregular plane figures.</b></p> <p>Ex. If x represents the length of a side of the square, write expressions that represent the perimeter and area of the figure below.</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>Resources used:</b></p>	<p>Nov.-Dec.</p>	<p>Diagram,                      radius, shaded                      region, grid</p>	<p>Find</p> <p>Level 3</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>11. Determine the surface area and volume of rectangular prisms, cylinders, and pyramids. NOTE: HIGH PRIORITY STANDARD (critical thinking/analysis)</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>• Estimating surface area and volume of solid figures.</li> <li>• Determining the appropriate units of measure to describe surface area and volume.</li> <li>• Developing formulas for determining surface area and volume of rectangular prisms, cylinders, and pyramids.</li> </ul> <p><b>Resources used:</b></p>	<p>Dec.</p>	<p>Effect, height, volume, cubic, dimension, prism, not occupied, cylinder, exterior, minimum, completely, cylindrical, surface are</p>	<p>Determine Level 4</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>12. Determine the length of missing sides and measures of angles in similar and congruent figures.</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>• Applying proportional reasoning.</li> <li>• Using dilations on the coordinate plane to determine measures of similar figures.</li> <li>• Finding the ratios of the perimeters and areas of similar triangles, trapezoids, and parallelograms.</li> </ul> <p><b>Resources used:</b></p>	<p>Nov.</p>	<p>Similar, missing, congruent, proportionally, symmetry, parallel, reflected</p>	<p>Determine  Level 4</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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 style="text-align: center;">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>
Data Analysis and Probability				
<p><b>13. Interpret data from populations, using given and collected data.</b>  <b>NOTE: HIGH PRIORITY STANDARD (critical thinking/analysis)</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>• Representing the data with the most appropriate graph, including box-and-whisker plot, circle graph, and scatter plot.</li> <li>• Making predictions by estimating the line of best fit from a scatter plot.</li> <li>• Comparing data sets involving two populations.</li> <li>• Determining the measure of center that is the most appropriate for a given situation.</li> </ul> <p><b>Resources used:</b></p>	<p style="text-align: center;">Feb.</p>	<p>According, recorded, most likely, stem-and-leaf plot, affected, percentage, displayed, scatter-plot, clearly label, increment</p>	<p>Conclusion, compare, indicate, label, interpret</p> <p style="text-align: center;">Level 4</p>	

# STIAchievement Services

## Formative Assessments Pacing Guide for St. Clair County Schools ARMT Gr. 8 Mathematics Standards

<p style="text-align: center;">AL COS Standards  <a href="http://www.alsde.edu">www.alsde.edu</a>                      Sections-Classroom Improvement- Publications</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>14. Determine the theoretical probability of an event.</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>• Calculating the probability of complementary events and mutually exclusive events.</li> <li>• Comparing experimental and theoretical probability.</li> <li>• Computing the probability of two independent events and two dependent events.</li> <li>• Determining the probability of an event through simulation. Ex. Using random numbers to find the probability of a basketball player making six baskets in six attempts if he makes 60 percent of his shots from the court and shoots 20 times during a game.</li> </ul> <p><b>Resources used:</b></p>	<p style="text-align: center;">Feb. - March</p>	<p style="text-align: center;">Probability, random, prefer</p>	<p style="text-align: center;">Select, determine</p> <p style="text-align: center;">Level 4</p>	