

# Algebra I, Grades 8-10

Curriculum Writers - Eliza Davis, Christian Lambert, Rob Lloyd, Jennifer Myers, and Valerie Partridge

GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p><b>CONTENT STRANDS</b></p> <ul style="list-style-type: none"> <li>• Number and Operations</li> <li>• Geometry and Measurement</li> <li>• Functions and Algebra</li> <li>• Data, Statistics, and Probability</li> </ul> <p><b>PROCESS STRANDS</b></p> <ul style="list-style-type: none"> <li>• Problem-solving, Reasoning, and Proof</li> <li>• Communication, Connections, and</li> </ul>		<p><b>NECAP GRADE LEVEL/SPAN EXPECTATIONS</b></p> <p>All of the concepts and skills identified at a given grade level are "fair game" for large scale assessment purposes if indicated by <b>(state assessment, grade...)</b>.</p> <p>Each GLE includes three parts:</p> <ul style="list-style-type: none"> <li>• A statement in <b>bold</b>, called the "stem" is at the beginning of each GLE/GSE. Each "stem" is the same or similar across the grades for a given GLE/GSE, and is meant to communicate the main curriculum and instructional focus of the GLE/GSE across the grades.</li> <li>• The <b>unbolded</b> text within a GLE/GSE indicates how the GLE/GSE is specified at a given grade level. There are often several indicators for each GLE/GSE stem. Each indicator is coded and indicated fair game for "state" or "local" assessment.</li> <li>• Differences between adjacent grades are <b>underlined</b>. Sometimes nothing is underlined within a GLE/GSE. In these situations, a difference in adjacent grades "assumes increasing text complexity" and is noted for those GLE/GSE's.</li> <li>• Each GLE/GSE is <b>coded</b> for the content area, the grade level, the GLE/GSE "stem" number, and specific indicator for that</li> </ul>	<p><b>DISTRICT INITIATIVES &amp; RESEARCH</b></p> <p><b>The teacher</b></p> <p>Employs strategies of "best practice" (student-centered, experiential, holistic, authentic, expressive, reflective, social, collaborative, democratic, cognitive, developmental, constructivist/heuristic, and challenging)</p> <p>Facilitates the integration of <b>Applied Learning Standards (SCANS)</b></p> <ul style="list-style-type: none"> <li>• critical thinking</li> <li>• problem solving</li> <li>• research</li> <li>• communication</li> <li>• reflection and evaluation</li> </ul> <p>Applies <b>Principles of Learning (POL) ©</b></p> <ul style="list-style-type: none"> <li>• organizing for effort</li> <li>• clear expectations</li> <li>• fair and credible evaluations</li> <li>• recognition of accomplishment</li> <li>• academic rigor</li> <li>• accountable talk</li> <li>• socializing intelligence'</li> <li>• self-management of learning</li> <li>• learning as apprenticeship</li> </ul> <p>Applies <b>Principles of Disciplinary Literacy</b></p> <p><b>Differentiates instruction by varying the content, process, and product and implementing</b></p> <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> <p>Analyzes <b>pre-assessment</b> to direct instruction</p> <p>Provides <b>exemplars</b> and rubrics</p> <p><b>Addresses multiple intelligences and brain</b></p>	<p><b>Textbook</b></p> <p><i>Impact Mathematics Course 3</i> Glencoe (MS)</p> <p><i>Merrill Algebra I Applications and connections</i> (Glencoe)</p> <p><b>Algebra I Integration Application Connections</b> (glencoe)</p> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>• <i>A Collection of Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridee.net">www.ridee.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <b>NECompact.org</b></li> <li>• <b>BPS website</b></li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b></p> <ul style="list-style-type: none"> <li>• <i>Classroom Instruction That Works,</i></li> </ul>	<p><b>REQUIRED</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON TASKS</b> (available on BHS shared drive)</p> <p><b>COMMON LOCAL ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED</b></p> <p>Anecdotal records</p> <p>Exhibits</p> <p>Interviews</p> <p>Graphic organizers and/or visual imagery</p> <p>Journals</p> <p><b>Multiple Intelligences assessments e.g.</b></p> <ul style="list-style-type: none"> <li>• role playing, short plays (bodily kinesthetic)</li> <li>• graphic organizing, sketch journals/ cartooning (visual)</li> <li>• collaboration/ conferencing interpersonal</li> <li>• songs, lyrics (musical)</li> </ul> <p>Oral presentations</p> <p>Performance/problem-based tasks</p> <p>Rubrics</p> <p>Tests and quizzes</p>

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<p><b>Representations</b></p>		<p>GLE/GSE stem. (e.g. N&amp;O - 5-6.2 means N &amp; O (numbers and operations), 5 (grade 5), 6 (6<sup>th</sup> GLE/GSE stem), 2 (the second specific indicator for the 6<sup>th</sup> GLE/GSE stem).</p> <p>If an outcome does not have a GLE/GSE number, it indicates this is an additional expectation for Barrington Public Schools.</p> <p><b>Outcomes and Benchmarks</b> are indicated for all <b>MATHEMATIC GLE/GSE's/standards</b> and are secured for this grade level unless indicated with a <b>B</b> for beginning or a <b>D</b> for developing.</p> <p>The <b>instructional strategies, resources, and assessments</b> to the right are a reference list of possible ways to teach and measure the outcomes/benchmarks. One, some, or all of these may be used for specific outcomes/benchmarks. The lists reflect research-based instructional strategies and assessments, and all of the district initiatives. Required district-wide assessments that include common local assessments (mid-term/final exams) are indicated. It is the expectation they will be used for all outcomes/benchmarks.</p> <p>When an instructional strategy, resource, or assessment is specific to an outcome/benchmark, it may be listed next to the benchmark.</p>	<p><b>dominance</b> (spatial, bodily kinesthetic, musical, linguistic, intrapersonal, interpersonal, mathematical/logical, and naturalist)</p> <p>Organizes <b>exhibition of student work</b> with rubrics</p> <p>Collaborates with specialist to differentiate instruction for ALL students</p> <p><b>MATHEMATICS STRATEGIES</b></p> <p>Employs <b>Mathematics best practice strategies e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses</li> <li>• defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the scientific calculator</li> <li>• Differentiates instruction by varying the content, process, and product and implementing             <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>		

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<p>1. NUMBER and OPERATIONS</p> <p>1.1 Relative magnitude of real numbers</p>		<p>The student</p> <p>1.1.1 Demonstrates understanding of the relative magnitude of real numbers by solving problems involving:</p> <ul style="list-style-type: none"> <li>ordering or comparing rational numbers</li> <li>common irrational numbers (e.g., <math>\sqrt{2}</math>, <math>\pi</math>)</li> <li>absolute values</li> <li>integers (N&amp;O)- 10-2 (state assessment)               <ul style="list-style-type: none"> <li>Venn diagrams</li> <li>number line</li> <li>inequalities. (N&amp;O)- 10-2, 8-2, 8-1</li> </ul> </li> </ul> <p>1.1.2 Demonstrates understanding of the relative magnitude of real numbers by solving problems involving:</p> <ul style="list-style-type: none"> <li>rational bases with integer exponents,</li> <li>perfect squares and cubes</li> <li>square roots and cube roots,</li> <li>numbers represented in scientific notation using number lines or equality and inequality symbols. (N&amp;O)- 10-2, 8-2, 8-1 (state assessment)</li> </ul> <p>1.1.3 Demonstrates an ability to utilize appropriate technology to represent:</p> <ul style="list-style-type: none"> <li>rational numbers</li> <li>scientific notation</li> <li>common irrational numbers.</li> </ul> <p>1.1.4 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> <li>Number Line (MS) #10</li> <li>Which is the Better Buy?, p. 68, #29 (HS)</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <ul style="list-style-type: none"> <li>"Tootsie Roll" activity</li> <li>Rational Number Jeopardy</li> </ul> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing           <ul style="list-style-type: none"> <li>tiered assignments</li> </ul> </li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>Impact Mathematics Course 3, Glencoe (MS)</li> <li>Merrill Algebra I Applications and connections (Glencoe)</li> <li>Algebra I Integration Application Connections (Glencoe)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><u>School library resources</u></p> <ul style="list-style-type: none"> <li>Classroom Instruction That Works, Marzano</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

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			<ul style="list-style-type: none"> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>		
<p>1. NUMBER and OPERATIONS</p> <p>1.2 Solves problems</p>		<p>The student</p> <p>1.2.1 Accurately solves problems that involve but are not limited to:</p> <ul style="list-style-type: none"> <li>• expression evaluation/simplification (order of operations)</li> <li>• applications of rational numbers</li> <li>• proportional relationships</li> <li>• percent (increase or decrease)</li> <li>• perfect squares and cubes</li> <li>• ratios</li> <li>• rate</li> <li>• polynomial expressions. (N&amp;O)-10-4, 8-4 (state assessment)</li> </ul> <p>1.2.2 Solves real world problems from contexts outside of and within mathematics including those that cut across content strands or disciplines.</p> <p>1.2.3 Demonstrate the ability to utilize appropriate technology (e.g. scientific and/or graphic calculator) to aid in solving real world problems.</p> <p>1.2.4 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Class Trip , p4, NCTM (MS) #8</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <ul style="list-style-type: none"> <li>• Comparison shopping</li> <li>• Role playing (e.g. banker)</li> <li>• Chemistry experiment</li> </ul> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridee.net">www.ridee.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• NECAP Release tasks</li> <li>• NECompact.org</li> <li>• BPS website</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> <li>• COMMON TASKS (HS) (available on BHS shared drive)             <ul style="list-style-type: none"> <li>○ Dart Board</li> <li>○ Flu Vaccine</li> <li>○ Paper Cups</li> <li>○ Tortoise and Hare</li> <li>○ DJ Dilemma</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p>

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		<ul style="list-style-type: none"> <li>• Ski Trip Planning (HS) #2</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>• Dart Board</li> <li>• Flu Vaccine</li> <li>• Paper Cups</li> <li>• Tortoise and Hare</li> <li>• DJ Dilemma</li> </ul>	<p>to modify instruction</p> <ul style="list-style-type: none"> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiates instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>1. NUMBER and OPERATIONS</p> <p>1.3 Mental computation</p>		<p><b>The student</b></p> <p>1.3.1 <b>Uses a variety of mental computation strategies to solve problems:</b></p> <ul style="list-style-type: none"> <li>• calculates benchmark perfect squares and related square roots               <ul style="list-style-type: none"> <li>○ perfect squares 1-16</li> <li>○ perfect squares of common numbers (e.g. 25<sup>2</sup>) and multiples of 10</li> </ul> </li> <li>• determines any whole number percentage of a number or any multiples of 100% up to 500%.</li> <li>• determines benchmark fractions of a number M(N&amp;O)- 10-6</li> </ul>	<p><b>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</b></p> <ul style="list-style-type: none"> <li>• Perfect Square Jeopardy</li> <li>• 20% tip, 15% discount</li> </ul> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the</li> </ul>	<p><b>Resources, also see pages 1-2</b></p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul>	<p><b>Assessments/evidence, also see pages 1-2</b></p> <p><b><u>REQUIRED ASSESMENTS</u></b></p> <p><b><u>REQUIRED PROBLEMS</u></b></p> <p><b><u>COMMON ASSESMENTS</u></b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b><u>SUGGESTED ASSESMENTS</u></b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p>

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		<p>IMPORTANT: <i>The intent of this GSE is to embed mental arithmetic throughout the instructional program, not to teach it as a separate unit.</i></p> <p>1.3.2 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Block Pattern (MS) #6</li> <li>Riverdale Population , p. 64, #49 (HS)</li> </ul>	<p>student's mathematics</p> <ul style="list-style-type: none"> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> <li>Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>1. NUMBER and OPERATIONS</p> <p>1.4 Appropriate estimates</p>		<p>The student</p> <p>1.4.1 <b>Makes appropriate estimates</b> in a given situation by determining the level of accuracy needed and analyzing the accuracy of results.</p> <ul style="list-style-type: none"> <li>estimates tips, discounts, and tax</li> <li>estimates the value of a non-perfect square root or cube root (estimated decimal equivalent or estimation between two whole values) (N&amp;O)-10-7, 8-7</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <ul style="list-style-type: none"> <li>Estimating "short cut" distance</li> </ul> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li><i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li><i>Algebra I Integration Application</i></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> <li>COMMON TASKS (HS)</li> </ul>

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		<ul style="list-style-type: none"> <li>○ square roots 1-256</li> <li>○ cube roots 1-125</li> </ul> <p>IMPORTANT: <i>The intent of this GSE is to embed estimation throughout the instructional program, not to teach it as a separate unit.</i></p> <p>1.4.2    <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Dan's Discount Warehouse p. 37 NCTM (MS) #9</li> <li>• Princess Deli (HS)</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>• Paper Cups</li> </ul>	<ul style="list-style-type: none"> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<p><i>Connections (Glencoe)</i></p> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<p>(available on BHS shared drive)</p> <ul style="list-style-type: none"> <li>○ Paper Cups</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

# Algebra I, Grades 8-10

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p>1. NUMBER and OPERATIONS</p> <p>1.5 Properties of numbers</p>		<p>The student</p> <p>1.5.1 Applies properties of numbers to solve problems, simplify computations, or compare and contrast the properties of numbers and number systems. M(N&amp;O)-10-8, 8-8</p> <ul style="list-style-type: none"> <li>• <b>properties of equality</b> <ul style="list-style-type: none"> <li>○ commutative</li> <li>○ associative</li> <li>○ distributive</li> <li>○ reflexive</li> <li>○ symmetric</li> <li>○ substitution</li> <li>○ transitive</li> </ul> </li> <li>• <b>identity properties</b> <ul style="list-style-type: none"> <li>○ additive identity</li> <li>○ multiplicative identity</li> <li>○ multiplicative property of zero</li> </ul> </li> <li>• <b>inverse properties</b> <ul style="list-style-type: none"> <li>○ additive inverse</li> <li>○ multiplicative inverse</li> </ul> </li> <li>• <b>additional properties of numbers</b> <ul style="list-style-type: none"> <li>○ divisibility</li> <li>○ prime factorization</li> </ul> </li> </ul> <p>1.5.2 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Property Experience (MS) # 7</li> <li>• Property Crossword (HS)</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>• Dart Board</li> <li>• Flu Vaccine</li> <li>• Picture Frame</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <ul style="list-style-type: none"> <li>• Graphic organizers and visual aids</li> <li>• Property puzzle</li> </ul> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>• Differentiated instruction by varying the content, process, and product and</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <a href="http://www.necap.org">NECAP Release tasks</a></li> <li>• <a href="http://www.necap.org">NECompact.org</a></li> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> <li>• COMMON TASKS (HS) (available on BHS shared drive)             <ul style="list-style-type: none"> <li>○ Dart Board</li> <li>○ Flu Vaccine</li> <li>○ Picture Frame</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g.</p>

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			implementing <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>		Power Point™)
2. GEOMETRY AND MEASUREMENT  2.1 Properties of angle		<p>The student</p> <p>2.1.1 Recalls and applies properties of angle relationships resulting from two or three intersecting lines</p> <ul style="list-style-type: none"> <li>• adjacent angles</li> <li>• vertical angles,</li> <li>• straight angles, or</li> <li>• angle relationships formed by two non-parallel lines cut by a transversal, or</li> <li>• two parallel lines cut by a transversal to solve problems. (state assessment) (G&amp;M)-8-1</li> </ul> <p>2.1.2 Understands, uses, applies appropriate technology to solve problems</p> <p>2.1.3 REQUIRED PROBLEM</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> <li>• using manipulatives</li> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• NECAP Release tasks</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b> <b>REQUIRED PROBLEMS</b> <b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>CHAPTER TESTS BASED ON IMPACT MATHEMATICS COURSE 2</b></p> <p><b>SUGGESTED ASSESSMENTS</b> Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p>

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			<ul style="list-style-type: none"> <li>Differentiates instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>2. GEOMETRY AND MEASUREMENT</p> <p>2.2 Uses theorem or formulas to solve problem</p>		<p>The student</p> <p>2.2.1 Applies the Pythagorean Theorem to find a missing side of a right triangle or in problem solving situations. (G&amp;M)-8-2, (G&amp;M)- 10-2, 8-2 (state assessment)</p> <p>2.2.2 Analyzes and applies formulas for regular shapes (e.g. triangle, circle, trapezoid, etc.) to derive formulas for irregular shapes.</p> <p>2.2.3 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.2.4 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Kid City Park (MS) #1</li> <li>Sailing, p.486 # 42 (2.2.1) (HS) #4</li> <li>Clover Leaf Problem , p.39, # 37 (2.2.2) (HS) #3</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <ul style="list-style-type: none"> <li>Graphic organizers and visual aids</li> <li>Property puzzle</li> </ul> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li>Impact Mathematics Course 3, Glencoe (MS)</li> <li>Merrill Algebra I Applications and connections (Glencoe)</li> <li>Algebra I Integration Application Connections (Glencoe)</li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li>www.glencoe.com</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process</p>

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			<ul style="list-style-type: none"> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> <li>Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="http://www.rido.net">www.rido.net</a></li> <li><a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works</i>, Marzano</p>	and products)  Tests/ quizzes  Visual representation (e.g. Power Point™)
2. GEOMETRY AND MEASUREMENT  2.3 Similarity		<b>COVERED IN GEOMETRY</b>			
2. GEOMETRY AND MEASUREMENT  2.4 Perimeter, circumference, area		The student  2.4.1 Solves problems involving <ul style="list-style-type: none"> <li>perimeter</li> <li>circumference or</li> <li>area of two-dimensional figures (including composite figures) or</li> <li>surface area or volume of three-dimensional figures (including composite</li> </ul>	Teacher may model and/or facilitate the following strategies (also see pages 1-2)  <b>Mathematics best practice e.g.</b> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> </ul>	Resources, also see pages 1-2  <u>Textbook</u> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3</i>, Glencoe (MS)</li> <li><i>Merrill Algebra I Applications and connections</i> (Glencoe)</li> <li><i>Algebra I</i></li> </ul>	Assessments/evidence, also see pages 1-2  <b>REQUIRED ASSESMENTS</b> <b>REQUIRED PROBLEMS</b> <b>COMMON ASSESMENTS</b> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul>

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		<p>figures) within mathematics or across disciplines or contexts. (state assessment) (G&amp;M)-10-6</p> <p>2.4.2 Understands, uses, applies appropriate technology to solve problems</p> <p>2.4.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Circular Pond (MS) #2</li> <li>• Marketing Cereal p. 34, #43 (HS)</li> <li>• Jacuzzi on the Deck p. 236, #34 (HS)</li> </ul> <p><b>COMMON TASK</b></p> <ul style="list-style-type: none"> <li>• Picture Frame Task (HS)</li> </ul>	<ul style="list-style-type: none"> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<p><i>Integration Application Connections (Glencoe)</i></p> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <b>NECompact.org</b></li> <li>• <b>BPS website</b></li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>• <b>COMMON TASK</b> (available on BHS shared drive)               <ul style="list-style-type: none"> <li>◦ Picture Frame Task (HS)</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>2. GEOMETRY AND MEASUREMENT</p> <p>2.5 Units of measure</p>		<p>The student</p> <p>2.5.1 Uses units of measure appropriately and consistently when solving problems across content strands;</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p>

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		<ul style="list-style-type: none"> <li>• makes conversions within or across systems</li> <li>• makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement in other GLE/GSE's. (state assessment) (G&amp;M)-10-7</li> </ul> <p>2.5.2 Understands, uses, applies appropriate technology to solve problems</p> <p>2.5.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• World Record Sandwich p. 84 # 55 (HS)</li> <li>• MS TBD</li> </ul> <p><b>COMMON TASK</b></p> <ul style="list-style-type: none"> <li>• Picture Frame Task (HS)</li> <li>• Paper Cups (HS)</li> </ul>	<ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <i>Merrill Algebra I Applications and connections</i> (Glencoe)</li> <li>• <i>Algebra I Integration Application Connections</i> (Glencoe)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics</i> Charlotte Danielson, ASCD</li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.rioe.net">www.rioe.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• NECAP Release tasks</li> <li>• NECompact.org</li> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> <li>• COMMON TASK (available on BHS shared drive)               <ul style="list-style-type: none"> <li>○ Picture Frame Task (HS)</li> <li>○ Paper Cups (HS)</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
2. GEOMETRY AND MEASUREMENT		The student	Teacher may model and/or facilitate the following	Resources, also see pages 1-2	Assessments/evidence, also see pages 1-2

# Algebra I, Grades 8-10

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
2.6 Coordinate plane		<p>2.6.1 Solves problems on and off the coordinate plane involving</p> <ul style="list-style-type: none"> <li>distance</li> <li>midpoint</li> <li>perpendicular and parallel lines, or</li> <li>slope. (state assessment) (G&amp;M)-10-9</li> </ul> <p>2.6.2 Understands, uses, and applies appropriate technology to solve problems</p> <p>2.6.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>The Ladder Problem, p. 25, problem set A (MS)</li> <li>Half Way Between Two Cities p. 431, #51-58 (HS)</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>Flu Vaccine</li> </ul>	<p>strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<p><b>Textbook</b></p> <ul style="list-style-type: none"> <li>Impact Mathematics Course 3, Glencoe (MS)</li> <li>Merrill Algebra I Applications and connections (Glencoe)</li> <li>Algebra I Integration Application Connections (Glencoe)</li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ridoe.ri.gov/instruction/curriculum">www.ridoe.ri.gov/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><b>School library resources</b></p> <p>Classroom Instruction That Works, Marzano</p>	<p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> <li>COMMON TASKS (HS) (available on BHS shared drive) <ul style="list-style-type: none"> <li>Flu Vaccine</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
2. GEOMETRY AND MEASUREMENT  2.7 Spatial reasoning and visualization		COVERED IN GEOMETRY			
3. FUNCTIONS AND ALGEBRA  3.1 Variety of patterns		<p>The student</p> <p>3.1.1 Identifies, extends, and generalizes a variety of patterns</p> <ul style="list-style-type: none"> <li>• linear</li> <li>• nonlinear               <ul style="list-style-type: none"> <li>○ quadratic</li> <li>○ inverse</li> </ul> </li> </ul> <p>represented by models, tables, sequences, or graphs to solve problems. (state assessment) (F&amp;A)-10-1, 8-1</p> <p>3.1.2 Understands, uses, and applies appropriate technology to solve problems</p> <p>3.1.3 <b>REQUIRED PROBLEM</b></p> <ul style="list-style-type: none"> <li>• Photographer pp. 90-91, problem set E (MS)</li> <li>• Geology, p. 388, # 34 (HS)</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul> <p>• Differentiated instruction</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics</i> Course 3, Glencoe (MS)</li> <li>• <i>Merrill Algebra I Applications and connections</i> (Glencoe) (HS)</li> <li>• <i>Algebra I Integration Application Connections</i> (Glencoe) (HS)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Algebra I Dolciani</i></li> <li>• <i>Performance Tasks and Rubrics High School Mathematics</i> Charlotte Danielson, ASCD</li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.rideo.net">www.rideo.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p>

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			by varying the content, process, and product and implementing <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">NECAP Release tasks</a></li> <li>• <a href="#">NECompact.org</a></li> <li>• <a href="#">BPS website</a></li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	Visual representation (e.g. Power Point™)
<b>3. FUNCTIONS AND ALGEBRA</b>  3.2 Linear and non linear functions and relations		<p>The student</p> <p>3.2.1 <b>Demonstrates conceptual understanding of linear and nonlinear functions and relations</b> (including characteristics of classes of functions) through an analysis of</p> <ul style="list-style-type: none"> <li>• constant</li> <li>• variable</li> <li>• average rates of change</li> <li>• intercepts <b>and roots</b></li> <li>• domain</li> <li>• range</li> <li>• maximum and minimum values</li> <li>• increasing and decreasing intervals</li> <li>• rates of change (e.g., the height is increasing at a decreasing rate) (<b>state assessment</b>) (F&amp;A)-10-2, 8-2</li> </ul> <p>3.2.2 Describes how change in the value of one variable relates to change in the value of a second variable (<b>state assessment</b>) (F&amp;A)-10-2</p> <p>3.2.3 Works between and among different</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3 (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe) (HS)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe) (HS)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Algebra I Dolciani</i></li> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b> <b>REQUIRED PROBLEMS</b> <b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> <li>• COMMON TASKS (available on BHS shared drive)                             <ul style="list-style-type: none"> <li>○ Paper Cups (HS)</li> <li>○ Tortoise and the Hare (HS)</li> <li>○ Flu Vaccine (HS)</li> <li>○ Picture Frame (HS)</li> <li>○ DJ Dilemma (HS)</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b> Anecdotal record (e.g. defends student generated conjectures)</p>

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		<p>representations of functions and relations (e.g., graphs, tables, equations, function notation). <b>(state assessment)</b> (F&amp;A)-10-2</p> <p>3.2.4 Understands, uses, and applies appropriate technology to solve problems</p> <p>3.2.5 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• T- Shirt (MS) #5</li> <li>• Throwing a Ball, p. 368, #46 (HS) #11</li> <li>• Thunderstorm, p. 372, # 48 (HS) # 10</li> </ul> <p><b>COMMON TASKS</b></p> <ul style="list-style-type: none"> <li>• Paper Cups (HS)</li> <li>• Tortoise and the Hare (HS)</li> <li>• Flu Vaccine (HS)</li> <li>• Picture Frame (HS)</li> <li>• DJ Dilemma (HS)</li> </ul>	<p>calculator</p> <ul style="list-style-type: none"> <li>• Differentiated instruction by varying the content, process, and product and implementing <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• <a href="http://BPS website">BPS website</a></li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p><b>3. FUNCTIONS AND ALGEBRA</b></p> <p>3.3 Algebraic expressions</p>		<p>The student</p> <p>3.3.1 <b>Demonstrates conceptual understanding of algebraic expressions</b> by</p> <ul style="list-style-type: none"> <li>• solving problems involving algebraic expressions (<b>including algebraic fractions</b>)</li> <li>• simplifying expressions e.g., <ul style="list-style-type: none"> <li>○ polynomial or rational expressions (<b>expanding polynomials</b>)</li> <li>○ expressions involving integer exponents</li> <li>○ absolute values</li> <li>○ <b>factoring</b></li> <li>○ <b>extraneous solutions and restrictions</b></li> </ul> </li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe) (HS)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe) (HS)</i></li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>• <i>Algebra I Dolciani</i></li> <li>• <i>Performance Tasks</i></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• <b>MID-TERM EXAM</b></li> <li>• <b>FINAL EXAM</b></li> <li>• <b>QUARTERLY (MS only)</b></li> <li>• <b>COMMON TASKS (HS)</b> (available on BHS shared drive) <ul style="list-style-type: none"> <li>○ Flu Vaccine</li> <li>○ Picture Frame</li> <li>○ Tortoise and</li> </ul> </li> </ul>

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		<p>on the domain</p> <ul style="list-style-type: none"> <li>radical expressions (square root, etc.)</li> <li>evaluating expressions</li> <li>translating problem situations into algebraic expressions. (state assessment) (F&amp;A)-10- 3, 8-3</li> </ul> <p>3.3.2 Understands, uses, applies appropriate technology to solve problems</p> <p>3.3.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Challenge, p. 453, #43 (MS rational expressions, restrictions, factoring)</li> <li>Law Enforcement p. 480, #54 (HS square root) #13</li> <li>Will It Fit Through the Doorway? p.484, #4 (HS radicals)</li> <li>Pool Party, p. 262, example 4 (HS factoring of polynomials) #12</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>Flu Vaccine</li> <li>Picture Frame</li> <li>Tortoise and Hare</li> </ul>	<ul style="list-style-type: none"> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> <li>Differentiated instruction by varying the content, process, and product and implementing <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<p>and Rubrics High School Mathematics Charlotte Danielson, ASCD</p> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Algebra tiles</li> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><b>School library resources</b></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<p>Hare</p> <ul style="list-style-type: none"> <li>DJ Dilemma</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>3. FUNCTIONS AND ALGEBRA</p> <p>3.4 Equality</p>		<p>The student</p> <p>3.4.1 <b>Demonstrates conceptual understanding of equality by</b></p> <ul style="list-style-type: none"> <li>solving problems involving algebraic reasoning about equality (single variable), e.g. <ul style="list-style-type: none"> <li>distance = rate x time</li> <li>mixtures</li> </ul> </li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li><i>Merrill Algebra I Applications and connections (Glencoe) (HS)</i></li> <li><i>Algebra I</i></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul>

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Curriculum Writers - Eliza Davis, Christian Lambert, Rob Lloyd, Jennifer Myers, and Valerie Partridge

GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<ul style="list-style-type: none"> <li>o age relationships</li> <li>• translating problem situations into equations;</li> <li>• solving linear equations (symbolically and graphically) and expressing the solution set symbolically or graphically, or provides the meaning of the graphical interpretations of solution(s) in problem-solving situations; or</li> <li>• solving problems involving systems of linear equations in a context (using equations or graphs) or using models or representations. <b>(state assessment)</b> (F&amp;A)-10-4, 8-4</li> </ul> <p>3.4.2 Understands, uses, applies appropriate technology to solve problems</p> <p>3.4.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• T-shirt Task (MS) #5</li> <li>• Candle Burning (HS)</li> <li>• Car Rental (HS)</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>• Flu Vaccine</li> <li>• Picture Frame</li> <li>• DJ Dilemma</li> </ul>	<ul style="list-style-type: none"> <li>conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<p><i>Integration Application Connections (Glencoe) (HS)</i></p> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>• Algebra I Dolciani</li> <li>• Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridee.net">www.ridee.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• NECAP Release tasks</li> <li>• NECompact.org</li> <li>• BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>• <b>COMMON TASKS (HS)</b> (available on BHS shared drive)           <ul style="list-style-type: none"> <li>o Flu Vaccine</li> <li>o Picture Frame</li> <li>o DJ Dilemma</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.1 Given</p>		<p>The student</p> <p>4.1.1 <b>Interprets a given representation</b> (e.g., box-and-whisker plots, scatter plots, bar graphs, line graphs, circle graphs, histograms, frequency charts) to</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative</li> </ul>	<p><b>Resources, also see pages 1-2</b></p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I</i></li> </ul>	<p><b>Assessments/evidence, also see pages 1-2</b></p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p>

# Algebra I, Grades 8-10

Curriculum Writers - Eliza Davis, Christian Lambert, Rob Lloyd, Jennifer Myers, and Valerie Partridge

GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
representation		<ul style="list-style-type: none"> <li>make observations</li> <li>answer questions</li> <li>analyze the data to formulate or justify conclusions, critique conclusions</li> <li>make predictions, or</li> <li>solve problems within mathematics or across disciplines or contexts (e.g. media, workplace, social and environmental situations). <b>(state assessment)</b> (DSP)-10-1</li> </ul> <p>IMPORTANT: <i>Analyzes data consistent with concepts and skills in M(DSP)-10-2.)</i></p> <p>4.1.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.1.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Life Expectancy (MS) # 4</li> <li>Alisha's Allowance (HS) #15</li> <li>The Librarian's Conclusion (HS) #16</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>Dart Board</li> <li>Paper Cups</li> <li>Tortoise and Hare</li> </ul>	<ul style="list-style-type: none"> <li>group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<p><i>Applications and connections (Glencoe)</i></p> <ul style="list-style-type: none"> <li><i>Algebra I</i></li> <li><i>Integration</i></li> <li><i>Application</i></li> <li><i>Connections (Glencoe)</i></li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li><i>Performance Tasks and Rubrics High School Mathematics</i></li> <li><i>Charlotte Danielson, ASCD</i></li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> <li>Unifix cubes</li> <li>Dice</li> <li>Spinners</li> <li>Two-colored Chips</li> </ul> <p><b>School library resources</b></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li><b>MID-TERM EXAM</b></li> <li><b>FINAL EXAM</b></li> <li><b>QUARTERLY (MS only)</b></li> <li><b>COMMON TASKS (HS)</b> (available on BHS shared drive) <ul style="list-style-type: none"> <li>Dart Board</li> <li>Paper Cups</li> <li>Tortoise and Hare</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
4. DATA, STATISTICS,		<p>The student</p> <p>4.2.1 Analyzes patterns, trends, or distributions in</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p>	<p>Resources, also see pages 1-2</p>	<p>Assessments/evidence, also see pages 1-2</p>

# Algebra I, Grades 8-10

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p><b>AND PROBABILITY</b></p> <p>4.2 Patterns, trends, distributions</p>		<p><b>data in a variety of contexts</b> by determining, using, or analyzing measures of</p> <ul style="list-style-type: none"> <li>central tendency (mean, median, or mode)</li> <li>outliers</li> <li>quartile values (<i>emphasized in pre-algebra</i>)</li> <li>estimated line of best fit</li> <li>regression line</li> <li>correlation (strong positive, strong negative, or no correlation)</li> </ul> <p>to solve problems; and solve problems involving conceptual understanding of <b>the sample</b> from which the statistics were developed. (<b>state assessment</b>) (DSP)-10-2, 8-2</p> <p>4.2.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.2.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Life Expectancy (MS) #4</li> <li>Track Stars (HS) #17</li> <li>Coach's Dilemma (HS) #18</li> </ul>	<p>Wave problem</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing             <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<p><b>Textbook</b></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics</i> Course 3, Glencoe (MS)</li> <li><i>Merrill Algebra I Applications and connections</i> (Glencoe)</li> <li><i>Algebra I Integration Application Connections</i> (Glencoe)</li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li><i>Performance Tasks and Rubrics High School Mathematics</i> Charlotte Danielson, ASCD</li> </ul> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ride.net">www.ride.net</a></li> <li><a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> <li>Manipulatives</li> <li>Unifix cubes</li> <li>Dice</li> <li>Spinners</li> <li>Two-colored Chips</li> </ul> <p><b>School library resources</b></p> <p><i>Classroom Instruction That Works</i>, Marzano</p>	<p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

# Algebra I, Grades 8-10

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.3 Representations or elements of representations</p>		<p>The student</p> <p>4.3.1 Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)-10-1, (state assessment) (DSP)-10-3, 8-3</p> <p>4.3.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.3.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Share and Summarize p. 604, (prerequisite problem set A and B, p. 603-604) (MS)</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>• Dart Board</li> <li>• Flu Vaccine</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>• Differentiated instruction by varying the content, process, and product and implementing             <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> </ul> </li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.rido.net">www.rido.net</a></li> <li>• <a href="http://www.rido.net/instruction/curriculum">www.rido.net/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> <li>• Manipulatives</li> <li>• Unifix cubes</li> <li>• Dice</li> <li>• Spinners</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> <li>• COMMON TASKS (HS) (available on BHS shared drive)             <ul style="list-style-type: none"> <li>○ Dart Board</li> <li>○ Flu Vaccine</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g.</p>

# Algebra I, Grades 8-10

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			<ul style="list-style-type: none"> <li>think/pair/share</li> <li>cubing, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Two-colored Chips</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works</i>, Marzano</p>	Power Point™)
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.4 Counting techniques</p>		<p>The student</p> <p>4.4.1 Uses counting techniques to solve contextualized problems involving combinations or permutations, e.g.,</p> <ul style="list-style-type: none"> <li>organized lists</li> <li>tables</li> <li>tree diagrams</li> <li>models</li> <li>Fundamental Counting Principle, or student choice<sup>sc</sup> others). (state assessment) (DSP)-10-4, 8-4</li> </ul> <p>4.4.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.4.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Odd or Even? (MS) #3</li> <li>TV Shows (HS) #19</li> <li>Dice Game (HS) #20</li> </ul> <p><b>COMMON TASKS (HS)</b></p> <ul style="list-style-type: none"> <li>Dart Board</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content,</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>Impact Mathematics Course 3, Glencoe (MS)</li> <li>Merrill Algebra I Applications and connections (Glencoe)</li> <li>Algebra I Integration Application Connections (Glencoe)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> <li>COMMON TASKS (HS) (available on BHS shared drive)             <ul style="list-style-type: none"> <li>Dart Board</li> </ul> </li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p>

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			process, and product and implementing <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>	<u>Materials</u> <ul style="list-style-type: none"> <li>• Manipulatives</li> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> <li>• Unifix cubes</li> <li>• Dice</li> <li>• Spinners</li> <li>• Two-colored Chips</li> </ul> <u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i>	Tests/ quizzes  Visual representation (e.g. Power Point™)
<b>4. DATA, STATISTICS, AND PROBABILITY</b>  4.5 Experimental or theoretical probability		<b>The student</b>  4.5.1 Solves problems involving experimental or theoretical probability. (state assessment) (DSP)-10-5, 8-5  4.5.2 Understands, uses, applies appropriate technology to solve problems  4.5.3 <b>REQUIRED PROBLEM</b> <ul style="list-style-type: none"> <li>• Odd or Even? (MS) #3</li> </ul>	Teacher may model and/or facilitate the following strategies (also see pages 1-2)  <b>Mathematics best practice e.g.</b> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the</li> </ul>	<b>Resources, also see pages 1-2</b>  <u>Textbook</u> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <u>Supplementary books</u> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <u>Technology</u> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> </ul>	<b>Assessments/evidence, also see pages 1-2</b>  <b>REQUIRED ASSESMENTS</b> <b>REQUIRED PROBLEMS</b> <b>COMMON ASSESMENTS</b> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <b>SUGGESTED ASSESSMENTS</b> Anecdotal record (e.g. defends student generated conjectures in class)  Conferencing  Journals/notebooks  Oral presentation  Portfolio (samples of process and products)

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Curriculum Writers - Eliza Davis, Christian Lambert, Rob Lloyd, Jennifer Myers, and Valerie Partridge

GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			graphing and scientific calculator <ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="http://www.rido.net">www.rido.net</a></li> <li><a href="http://www.rido.net/instruction/curriculum">www.rido.net/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> <li>Unifix cubes</li> <li>Dice</li> <li>Spinners</li> <li>Two-colored Chips</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works</i>, Marzano</p>	Tests/ quizzes  Visual representation (e.g. Power Point™)
<b>4. DATA, STATISTICS, AND PROBABILITY</b>  4.6 Experimental or theoretical probability		<b>The student</b>  4.6.1 <b>In response to a teacher or student generated question or hypothesis</b> <ul style="list-style-type: none"> <li>decides the most effective method (e.g., survey, observation, research, experimentation)</li> <li>decides sampling techniques (e.g., random sample, stratified random sample) to collect the data necessary to answer the question</li> <li>collects, organizes, and appropriately displays the data</li> <li>analyzes the data to draw conclusions about the questions or hypotheses being tested while considering the limitations of the data that could effect interpretations; and</li> <li>when appropriate makes predications, asks new questions, or makes connections to</li> </ul>	<b>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</b>  <b>Mathematics best practice e.g.</b> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with</li> </ul>	<b>Resources, also see pages 1-2</b>  <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3</i>, Glencoe (MS)</li> <li><i>Merrill Algebra I Applications and connections</i> (Glencoe)</li> <li><i>Algebra I Integration Application Connections</i> (Glencoe)</li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li><i>Performance Tasks and Rubrics High School Mathematics</i> Charlotte Danielson, ASCD</li> </ul> <p><b>Technology</b></p>	<b>Assessments/evidence, also see pages 1-2</b>  <p><b>REQUIRED ASSESMENTS</b> <b>REQUIRED PROBLEMS</b> <b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESMENTS</b> Anecdotal record (e.g. defends student generated conjectures in class)             Conferencing</p>

# Algebra I, Grades 8-10

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		<p>real-world situations. (DSP)-10-6 IMPORTANT: <i>Analyzes data consistent with concepts and skills in M(DSP)-10-2.</i></p> <p>4.6.2 Understands, uses, applies appropriate technology to solve problems</p> <p>4.6.3 <b>REQUIRED PROBLEMS</b></p>	<p>other core subjects</p> <ul style="list-style-type: none"> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> <li>modeling functions of the graphing and scientific calculator</li> <li>Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> <li><a href="http://www.glencoe.com">www.glencoe.com</a></li> <li><a href="http://www.ridoe.net">www.ridoe.net</a></li> <li><a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> <li>Unifix cubes</li> <li>Dice</li> <li>Spinners</li> <li>Two-colored Chips</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p>5. <b>PROBLEM SOLVING, REASONING, AND PROOF</b></p> <p>5.1 Problem Solving strategies</p>		<p>Students will use problem-solving strategies to investigate and understand increasingly complex mathematical content and be able to:</p> <p>5.1.1 Use <b>problem-solving strategies</b> appropriately and effectively for a given situation. (PRP)- 8-1</p> <ul style="list-style-type: none"> <li>identify the problem/question/task</li> <li>make a list</li> <li>create a diagram</li> <li>determine, collect and organize the relevant information needed to solve real-world problems. (PRP)- 8-1</li> <li>organize data with graph and/or table</li> <li>determine a pattern</li> </ul>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbook</b></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li><i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li><i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li><i>Performance Tasks</i></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESSMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p>

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		<ul style="list-style-type: none"> <li>• identify and use formulas</li> <li>• create algebraic representation               <ul style="list-style-type: none"> <li>○ define variables</li> <li>○ write an equation</li> <li>○ simplify the equation</li> <li>○ solve the equation</li> <li>○ identify the appropriate solution(s)</li> </ul> </li> <li>• use technology when appropriate to solve problems. (PRP)- 8-1</li> </ul> <p>5.1.2 Apply integrated problem-solving strategies to solve problems in the physical, natural and social sciences, and in pure mathematics. (PRP)- 8-1</p> <p>5.1.3 Reflect on solutions and the problem-solving process for a given situation and refine strategies as needed. (PRP)- 8-1</p> <ul style="list-style-type: none"> <li>• contain accurate and appropriate data/responses</li> <li>• apply conventions of mathematics, e.g.               <ul style="list-style-type: none"> <li>○ labeling, money two decimal places</li> <li>○ correct estimations</li> <li>○ accurate level of precision (rounding off)</li> </ul> </li> <li>• proper execution of selected strategies</li> </ul>	<ul style="list-style-type: none"> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<p><i>and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></p> <p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ride.net">www.ride.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• <b>NECAP Release tasks</b></li> <li>• <b>NECompact.org</b></li> <li>• <b>BPS website</b></li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

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<p>5. PROBLEM SOLVING, REASONING, AND PROOF</p> <p>5.2 Mathematical reasoning and proof</p>		<p>Students will use mathematical reasoning and proof and be able to:</p> <p>5.2.1 Draw logical conclusions and make generalizations (inductively and/or deductively) from</p> <ul style="list-style-type: none"> <li>• patterns</li> <li>• graphs</li> <li>• tables</li> <li>• equations</li> <li>• geometric representation (PRP)-8-2</li> </ul> <p>5.2.2 Formulate, test, and justify mathematical conjectures and arguments. (PRP)-8-2</p> <p>5.2.3 Construct an argument and determine the validity of a mathematical solution (PRP)-8-2</p> <p>5.2.4 Apply mathematical reasoning in other disciplines. (PRP)-8-2</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>• Differentiated instruction by varying the content, process, and product and implementing             <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> </ul> </li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/instruction/curriculum</a></li> <li>• NECAP Release tasks</li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>

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			<ul style="list-style-type: none"> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>		
<p>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</p> <p>6.1 Communicate understanding</p>		<p>Students will communicate their understanding of mathematics and be able to:</p> <p>6.1.1 Articulate ideas clearly and logically in both written and oral form. (CCR)-8-1</p> <p>6.1.2 Present, share, explain, and justify thinking with others and build upon the ideas of others to solve problems. (CCR)-8-1</p> <p>6.1.3 Correctly use mathematical terminology, labels, symbols, and notation. (CCR)-8-1</p> <p>6.1.4 Formulate questions, conjectures, definitions, and generalizations about data, information, and problem situations. (CCR)-8-1</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul> <ul style="list-style-type: none"> <li>• Differentiated instruction by varying the content,</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3</i>, Glencoe (MS)</li> <li>• <i>Merrill Algebra I Applications and connections</i> (Glencoe)</li> <li>• <i>Algebra I Integration Application Connections</i> (Glencoe)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics</i> Charlotte Danielson, ASCD</li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <a href="#">NECAP Release tasks</a></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• BPS website</li> </ul> <p><u>Materials</u></p>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p>

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<p>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</p> <p>6.2 Create and use representations</p>		<p>Students will create and use representations to communicate mathematical ideas and to solve problems and be able to:</p> <p>6.2.1 Use models and technology (as needed) to develop equivalent representations of the same mathematical concept.</p> <p>6.2.2 Create and use representations to solve problems and organize their thoughts and ideas.</p> <p>6.2.3 Convert between representations (e.g., a table of values, an equation, and a graph may all be representations of the same function). (CCR)-8-2</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>• facilitating cooperative group work</li> <li>• discussing mathematics</li> <li>• questioning and making conjectures</li> <li>• justifying of thinking</li> <li>• constructing written responses defending the student's mathematics</li> <li>• facilitating problem solving approach to instruction</li> <li>• integrating content with other core subjects</li> <li>• using appropriate technology</li> <li>• using frequent assessment to modify instruction</li> <li>• modeling functions of the graphing and scientific calculator</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• <i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li>• <i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li>• <i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>• Scientific and graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> <li>• QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p> <p>Portfolio (samples of process and products)</p>

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GLE/GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
			<ul style="list-style-type: none"> <li>Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>tiered assignments</li> <li>jigsawing</li> <li>pre/post assessments</li> <li>anchoring</li> <li>think/pair/share</li> <li>cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>NECAP Release tasks</li> <li>NECompact.org</li> <li>BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> <li>Scissors, glue</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>
<p><b>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</b></p> <p>6.3 Mathematical connections</p>		<p>Students will recognize, explore, and develop mathematical connections and be able to:</p> <p>6.3.1 Connect new mathematical ideas to those already studied and build upon them.</p> <p>6.3.2 Understand that many real-world applications require an understanding of mathematical concepts (e.g., personal finance, running a business, building a house, following a recipe, or sending a rocket to the moon).</p> <p>6.3.3 Explain in oral and written form the relationships between a real-world problem and an appropriate mathematical model.</p> <p>6.3.4 Explain in oral and written form the relationships among various mathematical concepts (e.g., the relationship between</p>	<p>Teacher may model and/or facilitate the following strategies (also see pages 1-2)</p> <p><b>Mathematics best practice e.g.</b></p> <ul style="list-style-type: none"> <li>facilitating cooperative group work</li> <li>discussing mathematics</li> <li>questioning and making conjectures</li> <li>justifying of thinking</li> <li>constructing written responses defending the student's mathematics</li> <li>facilitating problem solving approach to instruction</li> <li>integrating content with other core subjects</li> <li>using appropriate technology</li> <li>using frequent assessment to modify instruction</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbook</u></p> <ul style="list-style-type: none"> <li><i>Impact Mathematics Course 3, Glencoe (MS)</i></li> <li><i>Merrill Algebra I Applications and connections (Glencoe)</i></li> <li><i>Algebra I Integration Application Connections (Glencoe)</i></li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li><i>Performance Tasks and Rubrics High School Mathematics Charlotte, Danielson, ASCD</i></li> </ul> <p><u>Technology</u></p> <ul style="list-style-type: none"> <li>Scientific and graphing calculator</li> <li>Overhead graphing scientific calculator</li> <li>Computer lab</li> </ul>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p> <p><b>REQUIRED PROBLEMS</b></p> <p><b>COMMON ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> <li>QUARTERLY (MS only)</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p> <p>Conferencing</p> <p>Journals/notebooks</p> <p>Oral presentation</p>

# Algebra I, Grades 8-10

Curriculum Writers - Eliza Davis, Christian Lambert, Rob Lloyd, Jennifer Myers, and Valerie Partridge

<b>GLE/GSE's STANDARDS</b>	<b>Applied Learning Stand. SIP</b>	<b>OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GLE/GLE's)</b>	<b>RESEARCH-BASED INSTRUCTIONAL STRATEGIES</b>	<b>RESOURCES</b>	<b>RESEARCH-BASED ASSESSMENT EVIDENCE</b>
		exponentiation and multiplication). (CCR)-8-3	<ul style="list-style-type: none"> <li>• modeling functions of the graphing and scientific calculator</li> <li>• Differentiated instruction by varying the content, process, and product and implementing               <ul style="list-style-type: none"> <li>▪ tiered assignments</li> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.glencoe.com">www.glencoe.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.net/instruction/curriculum">www.ridoe.net/instruction/curriculum</a></li> <li>• <a href="#">NECAP Release tasks</a></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• <a href="#">BPS website</a></li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> <li>• Scissors, glue</li> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p> <p>Visual representation (e.g. Power Point™)</p>