

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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,</li> </ul>		<p><b>NECAP GRADE 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>. Initiatives</p> <p>Each GSE 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 GSE. Each "stem" is the same or similar across the grades for a given GSE, and is meant to communicate the main curriculum and instructional focus of the GSE across the grades.</li> <li>• The <b>unbolded</b> text within a GSE indicates how the GSE is specified at a given grade level. There are often several indicators for each GLE 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 GSE. In these situations, differences in adjacent grades "assumes increasing text complexity" and is noted for those GSE.</li> <li>• Each GSE is <b>coded</b> for the content area, the grade level, the GLE/GSE "stem" number, and specific indicator for that GLE/GSE stem, (e.g. N&amp;O - 5-6.2) means N</li> </ul>	<p><b>DISTRICT INITIATIVES &amp; RESEARCH</b></p> <p><b>The teacher</b> 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>• problem solving</li> <li>• communication tools</li> <li>• information tools</li> <li>• self-management tools</li> <li>• working with others</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>Differentiates instruction by varying the <b>content, process, and product</b> and implementing</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>Textbooks</b></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition</i> Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition</i>, Addison Wesley (HONORS)</li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li>• <i>A Collection of 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</li> </ul>	<p><b>REQUIRED ASSESSMENTS</b></p> <p><b>REQUIRED PROBLEMS COMMON</b></p> <p><b>LOCAL ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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</b> e.g.</p> <ul style="list-style-type: none"> <li>• role playing, short plays</li> <li>• (bodily kinesthetic)</li> <li>• <b>graphic organizing, sketch journals/ cartooning</b> (visual)</li> <li>• <b>collaboration/ conferencing</b> interpersonal</li> <li>• <b>songs, lyrics</b></li> </ul>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p><b>and Representations</b></p>		<p>&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 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 GSE's</b>/standards 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>Addresses multiple intelligences and brain 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 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>• <b>modeling functions of the graphing and scientific calculator</b></li> </ul>	<p><b>calculator</b></p> <ul style="list-style-type: none"> <li>• <b>Computer lab</b></li> <li>• <a href="http://www.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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>• <b>NECAP Release tasks</b></li> <li>• <a href="http://NECompact.org">NECompact.org</a></li> <li>• <b>BPS website</b></li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• <b>Rulers (metric), protractors</b></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>(musical)</p> <p><b>Oral presentations</b></p> <p><b>Performance/problem-based tasks</b></p> <p><b>Rubrics</b></p> <p><b>Tests and quizzes</b></p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>The student</p> <p>1.1.1 Demonstrates conceptual understanding of rational numbers by knowing why real number is rational if and only if the number's decimal expansion eventually repeats or terminates. M(N&amp;O)- 12- 1</p> <p>1.1.2 Demonstrates conceptual understanding of real number system as an extension of the rational numbers by representing real numbers as infinite decimal expansions (that provide successive rational approximations to the number) and as points on a number line. M(N&amp;O)-AM-1</p> <p>1.1.3 Determines whether the decimal expansion of a rational number given in fractional form eventually repeats or terminates (without using a calculator). M(N&amp;O)-AM-1</p> <p>1.1.4 Understands, uses, applies appropriate technology to solve problems.</p>	<p>Teacher may model and/or facilitate the following strategies</p> <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>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
				<i>Works, Marzano</i>	
<p>1. NUMBER and OPERATIONS</p> <p>1.2 Relative magnitude of real numbers</p>		<p>The student</p> <p>1.2.1 Demonstrates understanding of the relative magnitude of real numbers by solving problems that involve</p> <ul style="list-style-type: none"> <li>• ordering or comparing any subset of the real numbers. M(N&amp;O)-12-2               <ul style="list-style-type: none"> <li>○ natural numbers</li> <li>○ whole numbers</li> <li>○ integers</li> <li>○ rational numbers</li> <li>○ irrational numbers</li> <li>○ real numbers</li> </ul> </li> </ul> <p>1.2.2 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>1.2.3 Understands, uses, applies appropriate technology to solve problems.</p>	<p>Teacher may model and/or facilitate the following strategies</p> <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>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demano">www.awl.com/demano</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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>• <a href="http://NECompact.org">NECompact.org</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
				<ul style="list-style-type: none"> <li>BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works</i>, Marzano</p>	Power Point™)
<p>1. NUMBER and OPERATIONS</p> <p>1.3 Solves problems</p>		<p><b>The Student</b></p> <p>1.3.1 <b>Accurately solves problems</b> involving scientific notation or uses significant digits to assess the precision of an answer.</p> <p>1.3.2 Interprets rational exponents and their relation to radicals; computes by hand in simple cases <b>with and without operations</b> (e.g. 432), and using a calculator when appropriate. M(N&amp;O)-12-4</p> <p>1.3.3 Interprets numbers given in scientific notation and carries out computations of them with and without a calculator. M(N&amp;O)-12-4</p> <p>1.3.4 Solves problems involving compound interest. M(N&amp;O)-12-4</p> <p>1.3.5 <b>Accurately solves problems and demonstrates understanding of complex numbers by interpreting them geometrically and by computing with them</b>, e.g.</p> <ul style="list-style-type: none"> <li>adding</li> <li>multiplying</li> <li>dividing</li> <li>finding the <math>n^{\text{th}}</math> root</li> <li>finding conjugates M(N&amp;O)-AM-4</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li><i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demano">www.awl.com/demano</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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> </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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> </ul> <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> <p>Portfolio (samples of process and products)</p> <p>Tests/ quizzes</p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>1.3.6 Understands complex numbers as an extension of the real numbers, e.g. arising in solutions of polynomial equations. M(N&amp;O)-AM-4</p> <p>1.3.7 Knows the fundamental theorem of algebra and knows that non-constant polynomials always factor into linear factors over complex numbers. M(N&amp;O)-AM-4</p> <ul style="list-style-type: none"> <li>knows how to work backwards.</li> </ul> <p>1.3.8 Solves problems using trigonometry (<b>HONORS</b>)</p> <ul style="list-style-type: none"> <li>unit circle</li> <li>trig identities</li> <li>trig functions</li> <li>trig graphs</li> <li>Law of Sines</li> <li>Law of Cosines</li> </ul> <p>1.3.9 Understands, uses, applies appropriate technology to solve problems.</p> <p>1.3.10 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>(1.3.3) <i>Precalculus A Graphing Approach</i> (P3) page 24 #48,51,54,57,66,69,72, &amp; 75</li> <li>(1.3.4) <i>Precalculus A Graphing Approach</i> (4.5) page 340 #9,13,18, &amp; 30 (1.3.4) <i>Precalculus Graphical, Numerical Algebraic</i>, (3.6) page 342 #21,25,30,&amp; 40 (<b>HONORS</b>)</li> <li>(1.3.7) <i>Precalculus A Graphing Approach</i> (3.6) page 276 # 27,30,39,42, &amp; 50 (1.3.7) <i>Precalculus Graphical, Numerical Algebraic</i>, (2.6) page 235 # 27,30,39,42, &amp; 50 (<b>HONORS</b>)</li> </ul>	<p>by varying the content, process, and product and implementing</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>	<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> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works</i>, Marzano</p>	<p>Visual representation (e.g. Power Point™)</p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p>1. NUMBER and OPERATIONS</p> <p>1.4 Appropriate estimates</p>		<p><b>The student</b></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. M(N&amp;O)-12-7</p> <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>Understands, uses, applies appropriate technology to solve problems.</b></p>	<p>Teacher may model and/or facilitate the following strategies</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>Textbooks</u></p> <p><i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition</i> Addison Wesley</p> <p><i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition,</i> Addison Wesley (HONORS)</p> <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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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 ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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>• Rulers (metric), protractors</li> </ul> <u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i>	Power Point™)
1. NUMBER and OPERATIONS  1.5 Properties of numbers		<p>The student</p> <p>1.5.1 Applies properties to determine whether a given subset of numbers is closed under a given arithmetic operation with the set of complex numbers. M(N&amp;O)-12-8</p> <ul style="list-style-type: none"> <li>• closure: when using a mathematical operation all expressions and solutions are elements of the same number set.</li> </ul> <p>1.5.2 Understands, uses, applies appropriate technology to solve problems.</p> <p>1.5.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• (1.5.1) <i>Precalculus A Graphing Approach</i>, (3.5) page 268 #6,15, &amp; 48</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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> <p><i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</p> <p><i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</p> <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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> <li>• <a href="http://www.ridoe.gov/instru">www.ridoe.gov/instru</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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>	<p>tion/curriculum</p> <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> </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>
<b>2. GEOMETRY AND MEASUREMENT</b> 2.1 Properties of angle		COVERED IN GEOMETRY			
<b>2. GEOMETRY AND MEASUREMENT</b> 2.2 Uses theorem or formulas to solve problem		COVERED IN ALGEBRA II			
<b>2. GEOMETRY AND MEASUREMENT</b> 2.3 Similarity		<p>The student</p> <p>2.3.1 Applies the concepts of similarity of right triangles with the trigonometric functions defined as ratios of sides of triangles.</p> <p>2.3.2 Uses the ratios of the sides of special right triangles (30°-60°-90° and 45°-45°-90°) to determine the sine, cosine and tangent (30°, 45°, 60°) and solve related problems. M(G&amp;M)-12-5</p>	<p>Teacher may model and/or facilitate the following strategies</p> <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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li><i>Precalculus Graphical, Numerical</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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> </ul>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>(HONORS)</p> <p>2.3.3 Understands, uses, applies appropriate technology to solve problems.</p>	<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>Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana.com">www.awl.com/demana.com</a></li> <li><a href="http://www.interactmath.com">www.interactmath.com</a></li> <li><a href="http://www.ridge.net">www.ridge.net</a></li> <li><a href="http://www.ridge.net/instruction/curriculum">www.ridge.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> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>FINAL EXAM</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><b>2.GEOMETRY AND MEASUREMENT</b></p> <p>2.4 Perimeter, circumference,</p>		<p>The student</p> <p>2.4.1 Solves problems involving angles, lengths and areas of polygons by applying the trigonometric formulas law of sines/cosines, <math>A=1/2 ab\sin C</math>); and applies the appropriate unit of measure. M(G&amp;M)-12-6 (HONORS)</p>	<p>Teacher may model and/or facilitate the following strategies</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> <li>facilitating cooperative</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
area		<p>2.4.2 Derives and uses formulas for length of arcs and areas of sectors in radians and degrees (M(G&amp;M)-AM-6 (HONORS))</p> <p>2.4.3 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.4.4 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS) page 361#74</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS), page 371 #74</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS), page 494 #36</i></li> </ul>	<p>group work</p> <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> </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>	<ul style="list-style-type: none"> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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> </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>HONORS SUMMER ASSIGNMENT</b></li> <li>• <b>MID-TERM EXAM</b></li> <li>• <b>FINAL EXAM</b></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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p>2. GEOMETRY AND MEASUREMENT</p> <p>2.5 Units of measure</p>		<p><b>The student</b></p> <p>2.5.1 Uses informal concepts of successive approximation (e.g. finding zeros on the calculator). M(G&amp;M)-12-7</p> <p>2.5.2 Computes upper and lower bounds. M(G&amp;M)-12-7</p> <p>2.5.3 Uses measurement conversion strategies (e.g., unit conversion). M(G&amp;M)-12-7 (HONORS)</p> <p>2.5.4 Uses radian measure approximately when solving problems. M(G&amp;M)-AM-7 (HONORS)</p> <p>2.5.5 Converts between radian measure and degree measure. M(G&amp;M)-AM-7 (HONORS)</p> <p>2.5.6 Understands why radian measure is useful. M(G&amp;M)-AM-7 (HONORS)</p> <p>2.5.7 Understands, uses, applies appropriate technology to solve problems.</p> <p>2.5.8 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>(2.5.2) <i>Precalculus A Graphing Approach</i>, (3.4) page 259 #24 &amp; 27</li> <li>(2.5.2) <i>Precalculus Graphical, Numerical Algebraic</i> (2.4) page 217 #39,42, &amp; 45 (HONORS)</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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> <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>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li><i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demang">www.awl.com/demang</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> </ul> <p><u>School library resources</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 ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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>	<i>Classroom Instruction That Works, Marzano</i>	
<p><b>2. GEOMETRY AND MEASUREMENT</b></p> <p>2.6 Circles as loci</p>		<p><b>The student</b></p> <p>2.6.1 Uses the distance formula to obtain equations for circles. M(G&amp;M)-12-9</p> <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>Given: circle with a center (3,-5) and a point on the circle (6,-1)</li> <li>Find: the equation for the circle in standard form</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li><i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana.com">www.awl.com/demana.com</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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> </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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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>	<ul style="list-style-type: none"> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	Power Point™)
<b>2. GEOMETRY AND MEASUREMENT</b> 2.7 Spatial reasoning and visualization		The student  COVERED IN GEOMETRY			
<b>3. FUNCTIONS AND ALGEBRA</b>  3.1 Arithmetic and geometric sequence		The student  3.1.1 Identifies arithmetic and geometric sequences and finds the $n$ th term; then uses the <b>generalization</b> to find a specific term. <i>M(F&amp;A)-12-1</i>  3.1.2 Identifies and computes partial sums of infinite arithmetic and geometric sequences. <i>M(F&amp;A)-AM-1</i>  3.1.3 Determines when an infinite geometric series converges, and finds its sum. <i>M(F&amp;A)-AM-1</i>  3.1.4 Connects arithmetic and geometric sequences to linear and exponential functions, respectively. <i>M(F&amp;A)-AM-1</i>  3.1.5 Understands, uses, and applies appropriate technology to solve problems.	Teacher may model and/or facilitate the following strategies  Mathematics best practice e.g. <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>	Resources, also see pages 1-2  <u>Textbooks</u> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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</li> </ul>	Assessments/evidence, also see pages 1-2  <u>REQUIRED ASSESMENTS</u> <u>REQUIRED PROBLEMS</u> <u>COMMON ASSESMENTS</u> <ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> </ul> <p><u>SUGGESTED ASSESMENTS</u>                      Anecdotal record (e.g. defends student generated conjectures in class)                       Conferencing                       Journals/notebooks</p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>3.1.6 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, page 700 #24, 27 &amp; 61</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i> page 746 #12,15 &amp; 61 (HONORS)</li> </ul>	<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>• graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.awl.com/demano">www.awl.com/demano</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works</i>, Marzano</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>3.2 Linear and non linear functions and relations</p>		<p><b>The student</b></p> <p>3.2.1 Demonstrates conceptual understanding of linear and nonlinear functions and relations by representing and analyzing functions in several ways. M(F&amp;A)-12-2</p> <p>3.2.2 Recognizes properties of functions and characteristics properties of families of functions. M(F&amp;A)-12-2</p> <p>3.2.3 Applies knowledge of functions to interpret, model, and solve problems (e.g. regression). M(F&amp;A)-12-2</p> <p>3.2.4 Analyzes characteristics of classes of functions</p>	<p>Teacher may model and/or facilitate the following strategies</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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</li> </ul> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li>• <i>Performance Tasks and Rubrics High School Mathematics</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> </ul> <p><b>SUGGESTED ASSESMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>(polynomial, rational, and exponential) to include</p> <ul style="list-style-type: none"> <li>• domain</li> <li>• range</li> <li>• intercepts</li> <li>• increasing, decreasing, and constant intervals</li> <li>• rates of change. M(F&amp;A)-12-2</li> <li>• local extrema</li> <li>• symmetry</li> <li>• asymptotes</li> </ul> <p>3.2.5 Represents functions numerically, algebraically, graphically, and verbally (i.e. in written words), recognizing properties of a function from these representations, and transfers information from one representation to another. M(F&amp;A)-12-2</p> <p>3.2.6 Graphs polynomial, rational and exponential functions with transformations:</p> <ul style="list-style-type: none"> <li>• vertical and horizontal shifts</li> <li>• vertical and horizontal stretches and shrinks</li> <li>• reflections across vertical and horizontal axes. M(F&amp;A)-12-2</li> </ul> <p>3.2.7 Applies knowledge of functions to interpret and understand situations, design mathematical models, and solve problems in mathematics as well as in natural and social sciences M(F&amp;A)-12-2</p> <p>3.2.8 Demonstrates conceptual understanding of linear and non linear functions and relations from a set-theoretic perspective, and operations on functions including composition and inverse including computing, inverse algebraically. M(F&amp;A)-AM-2</p>	<p>approach to instruction</p> <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><i>Charlotte Danielson, ASCD</i></p> <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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> </ul> <p><u>School library resources</u> <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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>3.2.9 Analyzes characteristics of classes of functions and inverse functions (exponential, logarithmic, trigonometric) to include:</p> <ul style="list-style-type: none"> <li>• domain</li> <li>• range</li> <li>• intercepts</li> <li>• increasing and decreasing intervals and rates of change</li> <li>• periodicity</li> <li>• end behavior</li> <li>• maximum and minimum values</li> <li>• continuity</li> <li>• asymptotes</li> <li>• bounded M(F&amp;A)-AM-2 (HONORS)</li> </ul> <p>3.2.10 Analyzes properties of functions including</p> <ul style="list-style-type: none"> <li>• one-to-one functions</li> <li>• critical points</li> <li>• inflection points. M(F&amp;A)-AM-2</li> </ul> <p>3.2.11 Determine graphically and analytically whether a function is even, odd, or neither. M(F&amp;A)-AM-2</p> <p>3.2.12 Analyzes the idea of continuity and limits using limit notation. M(F&amp;A)-AM-2</p> <p>3.2.13 Recognizes properties of families of functions including logarithmic and trigonometric, and graphs them. M(F&amp;A)-AM-2</p> <p>3.2.14 Analyzes domain restriction and the effects of it on the function and its properties. M(F&amp;A)-AM-2</p>			

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>3.2.15 Understands, uses, and applies appropriate technology to solve problems.</p> <p>3.2.16 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> <li>• Twelve Basic Functions # 1 (3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.2.9, 3.2.11, 3.2.12, 3.2.13, 3.2.14, 3.2.15)</li> <li>• Line of Best Fit # 2 (3.2.3, 3.2.15)</li> <li>• Absolute Value to Piecewise Functions #3 (3.2.1, 3.2.2, 3.2.5, 3.2.14)</li> <li>• Graphs 5-Step Process # 5 (3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.2.6, 3.2.9, 3.2.12, 3.2.14, 3.2.15)</li> <li>• Analyzing Exponential Functions # 6 (3.2.1, 3.2.2, 3.2.4, 3.2.14, 3.2.15)</li> <li>• Analyzing Logarithmic Functions #7 (3.2.1, 3.2.2, 3.2.9, 3.2.12, 3.2.13, 3.2.14, 3.2.15)</li> <li>• Applications of Rational Numbers #8 (3.2.3, 3.2.7, 3.2.15)</li> <li>• Describing End Behavior #9a (3.2.1, 3.2.2, 3.2.12)</li> <li>• Chart # 9b (3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.2.10)</li> <li>• Transformations #10 (3.2.1, 3.2.2, 3.2.5, 3.2.6)</li> <li>• Exponential and Logarithmic Functions #11 (#.2.1, 3.2.2, 3.2.4, 3.2.6, 3.2.9, 3.2.13, 3.2.14, 3.2.15)</li> <li>• The Wave # 12 (3.2.3)</li> <li>• Exponential Functions: Transformations #13 (3.2.1, 3.2.2, 3.2.5, 3.2.6, 3.2.15)</li> <li>• Logarithmic Properties # 14 (3.2.2, 3.2.13, 3.2.14, 3.2.15)</li> <li>• Growth of a Business #16 (3.2.3)</li> </ul>			

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p><b>3. FUNCTIONS AND ALGEBRA</b></p> <p>3.3 Linear and non linear functions and relations</p>		<p><b>The student</b></p> <p>3.3.1 <b>Demonstrates conceptual understanding of algebraic expressions by:</b></p> <ul style="list-style-type: none"> <li>manipulating, evaluating, and simplifying algebraic and numerical expressions</li> <li>adding, subtracting, multiplying and dividing polynomials</li> <li>adding, subtracting, multiplying and dividing rational expressions</li> <li>simplifying complex fractions</li> <li>factoring quadratic and higher degree polynomials, including difference of squares</li> <li>applying properties of logarithms (e.g. <math>\log_a b^n = n \log_a b</math>, <math>a^{\log_a b} = b</math>) and converting between logarithmic and exponential forms</li> <li>manipulating, evaluating, and simplifying expressions involving rational exponents and radicals and converting between expressions with rational exponents and expressions with radicals. M(F&amp;A)-12-3</li> </ul> <p>3.3.2 <b>Demonstrates conceptual understanding of algebraic expressions by:</b></p> <ul style="list-style-type: none"> <li>using the remainder theorem, the factor theorem, and rational root theorem for polynomials</li> <li>factoring polynomials over integer, rational, real and complex numbers into linear and irreducible quadratic factors. M(F&amp;A)-AM-3</li> </ul> <p>3.3.3 <b>Graphs trig functions (HONORS):</b></p> <ul style="list-style-type: none"> <li>sine</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li><i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demang">www.awl.com/demang</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> </ul> <p><u>School library resources</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 ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<ul style="list-style-type: none"> <li>• cosine</li> <li>• tangent</li> <li>• cosecant</li> <li>• secant</li> <li>• cotangent</li> </ul> <p>3.3.4 Understands, uses, applies appropriate technology to solve problems.</p> <p>3.3.5 <b>BENCHMARK PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• <i>Precalculus Graphical, Numerical Algebraic</i> page 395 #73, 74 &amp; 75(HONORS)</li> </ul>	<ul style="list-style-type: none"> <li>▪ think/pair/share</li> <li>▪ cubing, etc.</li> </ul>	<p><i>Classroom Instruction That Works</i>, Marzano</p>	
<p><b>3. FUNCTIONS AND ALGEBRA</b></p> <p>3.4 Equality</p>		<p><b>The student</b></p> <p>3.4.1 <b>Demonstrates conceptual understanding of equality</b> by solving equations and systems of equations or inequalities and interpreting the solutions algebraically and graphically. M(F&amp;A)-12-4</p> <p>3.4.2 Solves quadratic functions by factoring, completing the square, using the quadratic formula, and graphing. M(F&amp;A)-12-4</p> <p>3.4.3 Solves and interprets solutions of equations involving polynomial, rational, and radical expressions. M(F&amp;A)-12-4</p> <p>3.4.4 Analyzes the effect of simplifying radical or rational expressions on the solution set of equations involving such expressions. (e.g. <math>x^2/x = x</math> for <math>x \neq 0</math>). M(F&amp;A)-12-4</p>	<p>Teacher may model and/or facilitate the following strategies</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> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>3.4.5 Finds approximate solutions to equations by graphing each side as a function using technology. [Understand that any equation in <math>x</math> can be interpreted as the equation <math>f(x) = g(x)</math> and interpret the solutions of the equation as the <math>x</math> value(s) of the intersection point(s) of the graphs of <math>y=f(x)</math> and <math>y=g(x)</math>.] M(F&amp;A)- 12-4</p> <p>3.4.6 Solves 2x2 systems of linear equations and graphically interprets the solutions. M(F&amp;A)- 12-4</p> <p>3.4.7 Solves systems of linear and quadratic inequalities. M(F&amp;A)- 12-4</p> <p>3.4.8 Demonstrates conceptual understanding of equality by solving equations and verifying identities involving trigonometric expressions. M(F&amp;A)-AM-4 (HONORS)</p> <p>3.4.9 Solves graphs and applies the intermediate value theorem to find exact or approximate solutions of equations or zeros of continuous functions. M(F&amp;A)-AM-4</p> <p>3.4.10 Uses partial fractions to represent a rational expression as a sum or difference. (HONORS)</p> <p>3.4.11 Uses identities to solve trigonometric equations (HONORS)</p> <ul style="list-style-type: none"> <li>• reciprocal identities</li> <li>• quotient identities</li> <li>• Pythagorean identities</li> <li>• co function identities</li> </ul>	<ul style="list-style-type: none"> <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>• graphing calculator</li> <li>• Overhead graphing scientific calculator</li> <li>• Computer lab</li> <li>• <a href="http://www.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<ul style="list-style-type: none"> <li>• odd/even identities</li> <li>• sum identities</li> <li>• difference identities</li> <li>• double angle identities</li> <li>• power reducing identities</li> <li>• half angle identities</li> </ul> <p>3.4.12 Uses inverse trigonometric functions to solve equations. (HONORS)</p> <p>3.4.13 Uses the unit circle to solve equations. (HONORS)</p> <p>3.4.14 Understands, uses, applies appropriate technology to solve problems.</p> <p>3.4.15 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Absolute Value, Radical, and Rational Equations and Inequalities #4 (3.4.1, 3.4.3)</li> <li>• Logarithmic Properties #14 (3.4.1, 3.4.5)</li> </ul>			
<p><b>4. DATA, STATISTICS, AND PROBABILITY</b></p> <p>4.1 Given representation</p>		<p><b>The student</b></p> <p>4.1.1 <b>Interprets a given representation(s)</b> (e.g., regression function including linear, quadratic, and exponential) to analyze the data to make inferences and formulate, justify, and critique conclusions. M(DSP)-12-1</p> <p>IMPORTANT: Analyze data consistent with concepts and skills in M(DSP)-11-2).</p> <p>4.1.2 Understands, uses, applies appropriate technology to solve problems.</p>	<p>Teacher may model and/or facilitate the following strategies</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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>4.1.3 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Line of Best Fit - Graphing Calculator Lab #2</li> <li>The Wave #12 (4.1.1)</li> <li>Logarithmic Properties #14 (4.1.1)</li> <li>Lab Growth and Decay #15 (4.1.1)</li> <li>Growth of Business #16 (4.1.1)</li> </ul>	<p>responses defending the 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><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.awl.com/demana">www.awl.com/demana</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works</i>, Marzano</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>4.2 Patterns, trends, distributions</p>		<p>The student</p> <p>4.2.1 Analyzes patterns, trends, or distributions in data in a variety of contexts by calculating and analyzing measures of dispersion (standard deviation, variance, and percentiles). M(DSP)-12-2</p> <p>4.2.2 Analyzes central tendency for any distribution. M(DSP)-AM-2</p>	<p>Teacher may model and/or facilitate the following strategies</p> <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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li><i>Precalculus Graphical, Numerical</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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> </ul>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>4.2.3 Interprets the correlation coefficient in the context of data. M(DSP)-AM-2</p> <p>4.2.4 Uses Pascal's triangle to expand binomials. (HONORS)</p> <p>4.2.5 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.2.6 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Line of Best Fit - Graphing Calculator Lab #2</li> <li>• The Wave #12 (4.2.3)</li> <li>• Lab Growth and Decay #15 (4.2.3)</li> <li>• Growth of Business #16 (4.2.3)</li> </ul>	<p>conjectures</p> <ul style="list-style-type: none"> <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 by varying the content, process, and product and implementing</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><i>Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demano">www.awl.com/demano</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.com</a></li> <li>• <a href="http://www.ridge.net">www.ridge.net</a></li> <li>• <a href="http://www.ridge.net/instruction/curriculum">www.ridge.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> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>• <b>FINAL EXAM</b></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>4.3 Representation</p>		<p><b>The student</b></p> <p>4.3.1 <b>Organizes and displays one- and two variable data using a variety of representations:</b></p> <ul style="list-style-type: none"> <li>• box-and-whisker plots</li> <li>• scatter plots</li> <li>• bar graphs</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</p> <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><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
s or elements of representations		<ul style="list-style-type: none"> <li>• line graphs</li> <li>• circle graphs</li> <li>• pie charts</li> <li>• histograms</li> <li>• frequency charts M(DSP)-12-3</li> </ul> <p>4.3.2 Analyzes data to formulate or justify conclusions, make predictions, or to solve problems with or without using technology. M(DSP)-12-3</p> <p>4.3.3 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.3.4 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>• Line of Best Fit - Graphing Calculator Lab #2 (4.3.2)</li> <li>• The Wave #12 (4.3.2)</li> <li>• Lab Growth and Decay #15 (4.3.2)</li> <li>• Growth of Business #16 (4.3.2)</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>Wesley</p> <ul style="list-style-type: none"> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</i></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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.com</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> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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, AND		<p><b>The student</b></p> <p>4.4.1 Uses counting techniques to solve problems in context involving combination or permutations using a variety of strategies:</p>	<p>Teacher may model and/or facilitate the following strategies</p>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p>	<p>Assessments/evidence, also see pages 1-2</p> <p><b>REQUIRED ASSESMENTS</b></p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p><b>PROBABILITY</b></p> <p>4.4 Counting techniques</p>		<ul style="list-style-type: none"> <li>• nCr</li> <li>• nPr</li> <li>• n! M(DSP)-12-4</li> </ul> <p>4.4.2 Finds complements of sets. M(DSP)-12-4</p> <p>4.4.3 Understands, uses, applies appropriate technology to solve problems.</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>	<ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana.com">www.awl.com/demana.com</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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.necapcompact.org">NECAPcompact.org</a></li> <li>• BPS website</li> </ul> <p><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</li> </ul> <p><u>School library resources</u></p> <p><i>Classroom Instruction That Works, Marzano</i></p>	<p><b>REQUIRED PROBLEMS COMMON ASSESSMENTS</b></p> <ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> </ul> <p><u>SUGGESTED ASSESSMENTS</u></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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
<p>4. DATA, STATISTICS, AND PROBABILITY</p> <p>4.5 Probability event</p>		<p>The student</p> <p>4.5.1 For a probability event in which the sample space may or may not contain equally likely outcomes, predicts the theoretical probability of an event and tests the prediction through experiments and simulations. M(DSP)-12-5</p> <p>4.5.2 Compares and contrasts theoretical and experimental probabilities. M(DSP)-12-5</p> <p>4.5.3 Finds the odds of an event and understands the relationship between probability and odds. M(DSP)-12-5</p> <p>4.5.4 Solves probability problems by applying</p> <ul style="list-style-type: none"> <li>• concepts of counting</li> <li>• independent and dependent events</li> <li>• conditional probability. M(DSP)-AM-5</li> <li>• binomial probability (HONORS)</li> </ul> <p>4.5.5 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.5.6 REQUIRED PROBLEMS</p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, page 754 #43,, 45 &amp; 49</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i> page 730 #33,36&amp; 49 (HONORS)</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</p> <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> <li>▪ jigsawing</li> <li>▪ pre/post assessments</li> <li>▪ anchoring</li> </ul> </li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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><u>Materials</u></p> <ul style="list-style-type: none"> <li>• Rulers (metric), protractors</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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE'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>	<u>School library resources</u> <i>Classroom Instruction That Works</i> , Marzano	
<b>4. DATA, STATISTICS, AND PROBABILITY</b>  4.6 Experimental or theoretical probability		<p><b>The student</b></p> <p>4.6.1 In response to a teacher or student generated question or hypothesis, collects, organizes, and appropriately displays the data. M(DSP)-12-6</p> <p>4.6.2 Analyzes the data to draw conclusions about the questions or hypotheses being tested while considering the limitations of the data that could effect interpretations. M(DSP)-12-6</p> <p>4.6.3 Uses data to make predictions (e.g. regression models), ask new questions, or make connections to real-world situations. M(DSP)-12-6</p> <p>IMPORTANT: Analyzes data consistent with concepts and skills in M(DSP)-10-2.)</p> <p>4.6.4 Understands, uses, applies appropriate technology to solve problems.</p> <p>4.6.5 <b>REQUIRED PROBLEMS</b></p> <ul style="list-style-type: none"> <li>Line of Best Fit - Graphing Calculator Lab #2 (4.6.3)</li> <li>The Wave #12 (4.6.1, 4.6.3, 4.6.4)</li> <li>Lab Growth and Decay #15 (4.6.2, 4.6.3, 4.6.4)</li> <li>Growth of Business #16 (4.6.1, 4.6.2, 4.6.3,</li> </ul>	<p>Teacher may model and/or facilitate the following strategies</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>Textbooks</u></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li><i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demango">www.awl.com/demango</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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>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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		4.6.4)	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>• Rulers (metric), protractors</li> </ul> <u>School library resources</u> <i>Classroom Instruction That Works</i> , Marzano	Power Point™)
5. PROBLEM SOLVING, REASONING, AND PROOF  5.1 Problem Solving strategies		Students will use problem-solving strategies to investigate and understand increasingly complex mathematical content and be able to: <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> <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>	Teacher may model and/or facilitate the following strategies <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>	Resources, also see pages 1-2 <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach</i>, 4<sup>th</sup> Edition Addison Wesley</li> <li>• <i>Precalculus Graphical, Numerical Algebraic</i>, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana">www.awl.com/demana</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.com</a></li> <li>• <a href="http://www.ridoe.net">www.ridoe.net</a></li> </ul>	Assessments/evidence, also see pages 1-2 <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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<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>• 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.ride.ri.gov/instruction/curriculum">www.ride.ri.gov/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><u>Materials</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Rulers (metric), protractors</a></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>5. PROBLEM SOLVING, REASONING, AND PROOF</b></p> <p>5.2 Mathematical reasoning and proof</p>		<p><b>Students will use mathematical reasoning and proof</b> 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</p>	<p><b>Teacher may model and/or facilitate the following strategies</b></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><b>Resources, also see pages 1-2</b></p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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,</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 ASSESMENTS</b></p> <ul style="list-style-type: none"> <li>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> <li>• FINAL EXAM</li> </ul> <p><b>SUGGESTED ASSESMENTS</b></p> <p>Anecdotal record (e.g. defends student generated conjectures in class)</p>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		validity of a mathematical solution. (PRP)-8-2  5.2.4 Apply mathematical reasoning in other disciplines. (PRP)-8-2	<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><i>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.awl.com/demana">www.awl.com/demana</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	Conferencing  Journals/notebooks  Oral presentation  Portfolio (samples of process and products)  Tests/quizzes  Visual representation (e.g. Power Point™)
6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION  6.1 Communicate understanding		Students will communicate their understanding of mathematics and be able to:  6.1.1 Articulate ideas clearly and logically in both written and oral form. (CCR)-8-1  6.1.2 Present, share, explain, and justify thinking with others and build upon the ideas of others to solve problems. (CCR)-8-1  6.1.3 Correctly use mathematical terminology, labels, symbols, and notation. (CCR)-8-1	Teacher may model and/or facilitate the following strategies  Mathematics best practice e.g. <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</li> </ul>	Resources, also see pages 1-2  <p><b>Textbooks</b></p> <ul style="list-style-type: none"> <li><i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li><i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</i></li> </ul> <p><b>Supplementary books</b></p> <ul style="list-style-type: none"> <li><i>Performance Tasks</i></li> </ul>	Assessments/evidence, also see pages 1-2  <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>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> </ul> <p><b>SUGGESTED ASSESSMENTS</b></p> Anecdotal record (e.g. defends

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<p>6.1.4 Formulate questions, conjectures, definitions, and generalizations about data, information, and problem situations. (CCR)-8-1</p>	<p>responses defending the 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><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.awl.com/demano">www.awl.com/demano</a></li> <li>• <a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><b>School library resources</b> <i>Classroom Instruction That Works, Marzano</i></p>	<p>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>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>Teacher may model and/or facilitate the following strategies</p> <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</li> </ul>	<p>Resources, also see pages 1-2</p> <p><b>Textbooks</b></p> <ul style="list-style-type: none"> <li>• <i>Precalculus A Graphing Approach, 4<sup>th</sup> Edition Addison Wesley</i></li> <li>• <i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup></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>• HONORS SUMMER ASSIGNMENT</li> <li>• MID-TERM EXAM</li> </ul>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
		<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>conjectures</p> <ul style="list-style-type: none"> <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><a href="#">Edition, Addison Wesley (HONORS)</a></p> <p><u>Supplementary books</u></p> <ul style="list-style-type: none"> <li><a href="#">Performance Tasks and Rubrics High School Mathematics Charlotte Danielson, ASCD</a></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.awl.com/demana">www.awl.com/demana</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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> </ul> <p><u>School library resources</u></p> <p><a href="#">Classroom Instruction That Works, Marzano</a></p>	<ul style="list-style-type: none"> <li>FINAL EXAM</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>6. COMMUNICATION, CONNECTIONS, AND REPRESENTATION</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>Teacher may model and/or facilitate the following strategies</p> <p>Mathematics best practice e.g.</p> <ul style="list-style-type: none"> <li>facilitating cooperative</li> </ul>	<p>Resources, also see pages 1-2</p> <p><u>Textbooks</u></p> <ul style="list-style-type: none"> <li><a href="#">Precalculus A Graphing Approach, 4th Edition Addison Wesley</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>

# Precalculus and Honors Precalculus, Grades 10-12

Curriculum Writers - Stefanie Lacroix and Lisa Mendo

GSE's STANDARDS	Applied Learning Stand. SIP	OUTCOMES/BENCHMARKS Barrington Public Schools (NECAP GSE's)	RESEARCH-BASED INSTRUCTIONAL STRATEGIES	RESOURCES	RESEARCH-BASED ASSESSMENT EVIDENCE
6.3 Mathematical connections		<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 exponentiation and multiplication). (CCR)-8-3</p>	<p>group work</p> <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> </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>	<ul style="list-style-type: none"> <li><i>Precalculus Graphical, Numerical Algebraic, 6<sup>th</sup> Edition, Addison Wesley (HONORS)</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.awl.com/demana">www.awl.com/demana</a></li> <li><a href="http://www.interactmath.com">www.interactmath.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><u>Materials</u></p> <ul style="list-style-type: none"> <li>Rulers (metric), protractors</li> </ul> <p><u>School library resources</u> <i>Classroom Instruction That Works, Marzano</i></p>	<ul style="list-style-type: none"> <li>HONORS SUMMER ASSIGNMENT</li> <li>MID-TERM EXAM</li> <li>FINAL EXAM</li> </ul> <p><u>SUGGESTED ASSESSMENTS</u></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>