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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
QUARTER 1				
	Unit 1 – Intro to Euclidean Geometry			
	1. Identify Points, Lines and Planes	1	• Section 1.1, pg. 2 • Supplemental Textbook, pg. 5 • NYSED Math Glossary & Math Vocabulary List • McDougal Supplemental Materials • classzone.com • regentsprep.org • jmap.org • NSED Sample Tasks *** No Planes**	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – undefined terms, point, line, plane, collinear, defined terms, line segment, ray, endpoints, intersection, perpendicular, parallel, angles, parallel planes, non-collinear, non-parallel, perpendicular planes			
	Define and identify the above vocabulary words.			
	Define notations for point, line, plane, perpendicular, parallel, line segment, angles, and rays.			
	Define and identify parallel planes, intersecting planes and skew planes.			
	Name segments, rays and opposite rays using correct symbolic notation.			
	Name points, lines and planes using correct symbolic notation.			
	Given a geometric diagram name the points, lines, collinear points, line segment, ray, end points & angles.			
G.G.1	Know and apply that if a line is perpendicular to each of two intersecting lines at their point of intersection, then the line is			

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	perpendicular to the plane determined by them.			
G.G.2	Know and apply that through a given point there passes one and only one plane perpendicular to a given line			
G.G.3	Know and apply that through a given point there passes one and only one line perpendicular to a given plane.			
G.G.4	Know and apply that two lines perpendicular to the same plane are coplanar.			
G.G.5	Know and apply that two planes are perpendicular to each other if and only if one plane contains a line perpendicular to the second plane.			
G.G.6	Know and apply that if a line is perpendicular to a plane, then any line perpendicular to the given line at its point of intersection with the given plane is in the given plane.			
G.G.7	Know and apply that if a line is perpendicular to a plane, then every plane containing the line is perpendicular to the given plane.			
G.G.8	Know and apply that if a plane intersects two parallel planes, then the intersection is two parallel lines.			
G.G.9	Know and apply that if two planes are perpendicular to the same line, they are parallel.			

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G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			
G.R.6	Use mathematics to show and understand physical phenomena (e.g., determine the number of gallons of water in a fish tank).			
	2. Measure and Classify Angles	2	• Section 1.4, pg. 24 • Supplemental Textbook, pg. 17 • NYSED Math Glossary & Math Vocabulary List • McDougal Supplemental Materials • classzone.com • regentsprep.org • jmap.org • NSED Sample Tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – angle (acute, right, obtuse, straight, reflex), sides, vertex of an angle, measure of an angle, congruent angles and angle bisector, congruent equal			
	Define and identify angle (acute, right, obtuse, straight, reflex), sides, vertex of an angle, measure of an angle, congruent angles and angle bisector, congruent, equal.			
	Apply angle notation to name angles and classify according to angle measure.			
	Define and apply the angle addition postulate.			
	Distinguish the correct notation for when angles are equal (=) and for when they are congruent (≅).			
	Applications to word problems.			
G.PS.6	Use a variety of strategies to extend solution methods to other problems.			
G.PS.9	Interpret solutions within the given constraints of a problem.			

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G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, and diagrams.			
	3. Describe Angle Pair Relationships	2	• Section 1.5, pg. 33 • Supplemental Textbook, pg. 50 • NYSED Math Glossary & Math Vocabulary List • McDougal Supplemental Materials • classzone.com • regentsprep.org • jmap.org • NSED Sample Tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – complementary, supplementary, vertical, adjacent, linear pairs			
	Identify complementary and supplementary angles.			
	Find the measures of the complement and supplement of an angle.			
	Use the properties of complementary, supplementary and vertical angles to find the missing angles, or to solve for an unknown variable.			
	Define vertical angles.			
	Solve numeric & algebraic problems relating to vertical angles.			
	Find angle measures in a linear pair both numeric & algebraic.			
G.PS.3	Use multiple representations to represent and explain problem situations (e.g., spatial, geometric, verbal, numeric, algebraic,			

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	and graphical representations).			
G.PS.8	Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions.			
G.PS.9	Interpret solutions within the given constraints of a problem.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, and diagrams.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.CN.7	Recognize and apply mathematical ideas to problem situations that develop outside of mathematics.			

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	4. Angle Pair Relationships	1	• Section 3.1, pg. 146 • Supplemental Textbook, pg. 50 • NYSED Math Glossary & Math Vocabulary List • McDougal Supplemental Materials • classzone.com • regentsprep.org • jmap.org • NSED Sample Tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallel lines, skew lines, transversal, corresponding angles, alternate interior angles, alternate exterior angles, consecutive interior angles.			
	Define parallel and perpendicular lines and write in correct symbolic notation.			
	Define and identify corresponding, alternate interior, alternate exterior angles given two parallel lines cut by a transversal.			
	Classify according to angle pair relationships (i.e.: corresponding angles).			
G.G.19	Construct lines parallel (or perpendicular) to a give line through a given point, using a straightedge and compass, and justify the construction.			
G.G.35	Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines.			
G.PS.8	Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions.			
G.PS.9	Interpret solutions within the given constraints of a problem.			

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G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, and diagrams.			
G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.CN.7	Recognize and apply mathematical ideas to problem situations that develop outside of mathematics.			
G.R.6	Use mathematics to show and understand physical phenomena (e.g., determine the number of gallons of water in a fish tank).			
	5. Use Parallel Lines and Transversals	2	• Section 3.2, pg. 153 • Supplemental Textbook, pg. 78 • NYSED Math Glossary & Math Vocabulary List • McDougal Supplemental Materials • classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – corresponding angles, alternate interior angles, alternate exterior angles, consecutive interior angles			
	Identify congruent angles applying the theorems of parallel lines angle relationships.			
	Identify supplementary angles applying the theorems of parallel lines angle relationships.			

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	Define and apply the alternate interior angles theorem.		• regentsprep.org • jmap.org • NSED Sample Tasks	
	Define and apply the alternate exterior angles theorem.			
	Define and apply the consecutive interior angles theorem.			
	Apply the above theorems to solve numeric and algebraic problems.			
G.G.35	Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines.			
G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
G.RP.4	Provide correct mathematical arguments in response to other students' conjectures, reasoning, and arguments.			
G.CM.5	Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid.			
G.CM.6	Support or reject arguments or questions raised by others about the correctness of mathematical work.			
G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			
G.CN.8	Develop an appreciation for the historical development of			

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	mathematics.			
	6. Review	1		
	7. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**10**		
	Unit 2 – Locus			
	1. Basic Locus	1	• Textbook A22-23 • Supplemental Textbook, pgs. 401-4022 • Reviewing Integrated Math II, pgs. 178-179 • Worksheets • NYSED Math Glossary & Math Vocabulary List • Cabri • Cabri, Jr. • classzone.com • regentsprep.org • jmap.org • mathbits.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines			
	Define locus and loci.			
	Define the five basic loci at a distance from a point, a line, two points, two parallel lines, and two intersecting lines.			
	Apply the five basic loci to simple problems.			
	Apply the five basic loci and draw diagrams.			
	Apply the product of the means equals the product of the extremes with numeric and algebraic problems.			
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			

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G.CN.6	Recognize and apply mathematics to situations in the outside world.		• NSED Sample Tasks & Sample Tests	
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, and objects created using technology as representations of mathematical concepts.			
G.R.2	Recognize, compare, and use an array of representational forms.			
	2. Compound Loci	2	• Textbook A22-23 • Supplemental Textbook, pgs. 401-4022 • Reviewing Integrated Math II, pgs. 180-184 • NYSED Math Glossary & Math Vocabulary List • Archived Sequential 2 Regent Exams • Cabri • Cabri, Jr. • classzone.com • regentsprep.org • jmap.org • mathbits.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines			
	Apply the five loci to compound loci problems.			
	Identify the compound loci by drawing a diagram that contains the two fixed figures and then add the diagrams of the two loci as dotted lines.			
G.G.22	Solve problems using compound locus.			
G.G.23	Graph and solve compound loci in the coordinate plane.			
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, and objects created using technology as representations of mathematical concepts.			

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G.R.2	Recognize, compare, and use an array of representational forms.			
	3. Review	2		
	4. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**6**		
	Unit 3 – Constructions			
	1. Constructions	4	• Textbook (see index) • Supplemental Textbook, pgs. 375-418, 701 • NYSED math glossary and math vocabulary list • Cabri • Cabri, Jr. • classzone.com • regentsprep.org • jmap.org • NYSED sample tasks & sample test	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – copy, line, angle, bisect, bisector, perpendicular bisector, parallel lines, perpendicular lines, construct			
	Using constructions, copy a line segment.			
	Using constructions, copy an angle.			
	Construct the bisector of a line.			
	Construct the bisector of an angle.			
	Justify the construction of the bisector of an angle.			
	Construct a perpendicular bisector.			
	Justify the construction of the perpendicular bisector.			

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	Construct a line parallel to a given line from a given point.			
	Construct a line perpendicular to a give line from a given point.			
	Justify the construction of parallel and perpendicular lines.			
	Construct an equilateral triangle.			
8.G.0	Construct the following using a straightedge and compass: segment congruent to a segment, angle congruent to an angle, perpendicular bisector, and angle bisector.			
G.G.17	Construct a bisector of a given angle, using a straightedge and compass, and justify the construction.			
G.G.18	Construct the perpendicular bisector of a given segment, using a straightedge and compass and justify the construction.			
G.G.19	Construct lines parallel or perpendicular to a given line through a given point using a straightedge and compass and justify the construction.			
G.G.20	Construct an equilateral triangle using a straightedge and compass and justify the construction.			
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, and objects created using technology as			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	representations of mathematical concepts.			
G.R.2	Recognize, compare, and use an array of representational forms.			
	2. Constructions with Technology	2	• Cabri • Cabri, Jr.	• Class Work • Homework • Questions on quizzes & tests
	Use interactive software, such as Cabri or Cabri, Jr. to complete constructions.			
	Use interactive software to investigate angle measurements, distances, etc. of constructions.			
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, and objects created using technology as representations of mathematical concepts.			
	3. Review	1		
	4. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**8**		
	QUARTERLY REVIEW	3		
QUARTER 2				

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	Unit 4 – Congruent Triangles			
	1. Introduction to Triangles	2	• Textbook 4.1 • Supplemental Textbook 3.4 • Reviewing Integrated Mathematics Course II, 5.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – interior angles and exterior angles of triangle, scalene, isosceles triangle, equilateral triangle, acute triangle, right triangle, obtuse triangle, and equiangular triangle			
	Classify triangles by the measure of its sides.			
	Classify triangles by angle measure.			
	Define and apply the triangle sum theorem to both numeric & algebraic problems.			
	Investigate & justify the triangle sum theorem.			
	Define and apply the exterior angle of a triangle theorem to numeric & algebraic problems.			
G.G.30	Investigate, justify, and apply theorems about the sum of the measures of the angles of a triangle.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			

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G.PS.8	Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	2. Congruent Triangle & Their Parts	1	• Textbook 4.2 • Supplemental Textbook 4.1 • Reviewing Integrated Mathematics Course II, 5.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – corresponding parts, SSS, SAS, AAS, ASA, HL, reflexive, symmetric and transitive properties of congruent triangles			
	Define congruent triangles and corresponding parts.			
	Identify corresponding parts of 2 congruent triangles.			
	Apply corresponding parts of congruent triangles to numeric & algebraic problems about sides and angles.			
	Define reflexive, symmetric and transitive properties for angles and segments.			
	Given two marked triangles determine if the triangles are congruent by SSS, SAS, ASA, AAS or HL.			

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G.G.29	Identify corresponding parts of congruent triangles.		• Archived Sequential II Regents Exams	
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	3. Prove Triangles Congruent by SSS	2	• Textbook 4.3 • Supplemental Textbook 4.2 • Reviewing Integrated Mathematics Course II, 4.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 2-column proof, statement, reason, given statement, SSS-side, side, congruent, congruent triangles			
	Introduce 2-column geometry proofs.			
	Define and explain SSS congruency.			
	Given two triangles that are marked, name the 2 congruent triangles (in proper order & notation).			
	Construct a 2-column SSS proof.			
G.G.28	Determine the congruence of two triangles by using one of the five congruence techniques (SSS, SAS, ASA, AAS, HL), given sufficient information about the sides and/or angles of two congruent triangles.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships,			

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	mathematical solutions, and geometric diagrams.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	4. Prove Triangles are Congruent by SAS	1	• Textbook 4.4 • Supplemental Textbook 4.2 • Reviewing Integrated Mathematics Course II, 4.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – SAS (side, angle, side)			
	Prove triangles are congruent by SAS.			
	List triangles in proper order.			
G.G.28	Determine the congruence of two triangles by using one of the five congruence techniques (SSS, SAS, ASA, AAS, HL), given sufficient information about the sides and/or angles of two congruent triangles.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	5. Prove Triangles are Congruent by ASA or AAS	2	• Textbook 4.5 • Supplemental Textbook 4.2 • Reviewing Integrated	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – ASA (angle, side, angle), AAS (angle, angle, side)			
	Prove triangles are congruent by ASA or AAS.			

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	List triangles in proper order.		Mathematics Course II, 4.5 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
G.G.28	Determine the congruence of two triangles by using one of the five congruence techniques (SSS, SAS, ASA, AAS, HL), given sufficient information about the sides and/or angles of two congruent triangles.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	6. Isosceles and Equilateral Triangles	2	• Textbook 4.7 • Supplemental Textbook 4.4 • Reviewing Integrated Mathematics Course II, 4.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – isosceles triangles, equilateral triangles, legs, base, vertex and base angles of triangle			
	Define isosceles & equilateral triangles.			
	Define legs, base, vertex and base angles of a triangle.			
	Given the measure of one angle of an isosceles triangle, determine the measure of the other 2 angles (both numeric & algebraic).			

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	Given the measure of one leg of an isosceles triangle, determine the measure of the other leg (both numeric & algebraic).		• regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
	Determine the lengths of sides and/or angles.			
G.G.31	Investigate, justify, and apply the isosceles triangle theorem and its converse.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	7. Mixed Congruent Triangle Proofs	2	• Textbook 4.7 • Supplemental Textbook 4.4 & 4.6 • Reviewing Integrated Mathematics Course II, 4.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org	• Class Work • Homework • Questions on quizzes & tests
	Prove triangles are congruent by SSS, SAS, AAS, ASA or HL by two-column proofs (no overlapping figures).			
G.G.28	Determine the congruence of two triangles by using one of the five congruence techniques (SSS, SAS, ASA, AAS, HL), given sufficient information about the sides and/or angles of two congruent triangles.			
G.G.29	Identify corresponding parts of congruent triangles.			
G.G.31	Investigate, justify, and apply the isosceles triangle theorem and its converse.			

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G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).		• jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.PS.7	Work in collaboration with others to propose, critique, evaluate, and value alternative approaches to problem solving.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	8. Review	2		
	9. Test	1		• Chapter Test • Questions on Quarterly Assessment
	Total Days	**15**		
	Unit 5 – Special Segments in Triangles			
	1. Numerical Radicals	1		
	Vocabulary – radical, radicand, index, square root, cube root, coefficient			
	Define and identify the radicand, index, square root, cube root, and coefficient			

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	Simplifying square roots.			
	Convert a radical to simplest radical form.			
	Convert a radical to its approximate decimal form.			
	Multiplying and dividing square roots.			
	Adding and subtracting square roots.			
	Rationalizing the denominator.			
A.N.2	Simplify radical terms (no variable in the radicand).			
A.N.3	Perform the four arithmetic operations using like and unlike radical terms and express the result in simplest form.			
	2. Mid-Segment of a Triangle	1	• Textbook 2.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Cabri, Jr. • Cabri Software • Classzone.com • regentsprep.org • jmap.org • mathbits.org • SMART View	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – mid-point, mid-segments, parallel, mid-segment theorem			
	Define and identify the mid-points of the three sides of a triangle.			
	Define and identify the three mid-segments of a triangle and their properties.			
	Apply the mid-segment theorem to find the length of a mid-segment.			
	Apply the mid-segment theorem to find the length of a side of			

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	the triangle.		• SMART Board • NYSED sample tasks • Graphing Calculator	
G.G.42	Investigate, justify, and apply theorems about geometric relationships based on the properties of the line segment joining the mid-point of two sides of the triangle.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, Venn diagrams, and other diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	3. Perpendicular Bisectors	1	• Textbook 5.2 • Supplemental Textbook, pg. 152 • NYSED math glossary and	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – perpendicular, ⊥, equidistant, endpoints of a line segment			
	Define perpendicular bisector (stress use of perpendicular			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	symbol).		math vocabulary list • Graphing Calculator • Cabri • Cabri, Jr. • SMART View • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	
	Apply the perpendicular bisector theorem to numeric and algebraic problems.			
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, Venn diagrams, and other diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	4. Angle Bisectors	1	• Textbook 5.3 • Supplemental Textbook pg. 152 • NYSED math glossary and math vocabulary list • McDougal supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –bisector, angle bisector, angle bisector theorem, converse of angle bisector theorem			
	Define angle bisector.			
	Investigate the angle bisector theorem.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Apply the angle bisector theorem to numeric and algebraic problems.		materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, Venn diagrams, and other diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	5. Medians and Altitudes	2	• Textbook 5.4 • Supplemental Textbook pg. 152 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – median, median of a triangle, concurrency, centroid, altitude, altitude of a triangle, orthocenter			
	Define and find the medians of a triangle.			
	Apply the median theorem to numeric and algebraic problems.			
	Apply to word problems where no diagram is given.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Define and find the altitudes of a triangle.		• Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.G.43	Investigate, justify, and apply theorems about the centroid of a triangle, dividing each median into segments whose lengths are in the ratio 2:1.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, Venn diagrams, and other diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	6. Square	2	• Cabri • Cabri, Jr.	• Class Work • Homework • Questions on quizzes & tests
	Use Cabri, Jr. to investigate the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.G.21	Investigate and apply the concurrence of medians, altitudes,			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	angle bisectors, and perpendicular bisectors of triangles.			
	7. Inequalities in Triangles	1	• Textbook 5.5 • Supplemental Textbook pg. 219 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – longest side, shortest side, largest angle, smallest angle, triangle inequality			
	Given the lengths sides of a triangle, identify the smallest and largest angle.			
	Given the measures of the angles of a triangle, identify the largest and smallest angle.			
	Given the measure of the angles of a triangle, determine a compound inequality about the sides of the triangle.			
	Given the measure of the sides of a triangle, determine a compound inequality about the angles of the triangle.			
	Investigate and justify the triangle inequality theorem.			
	Define and apply the hinge theorem.			
G.G.33	Investigate, justify, and apply the triangle inequality theorem.			
G.G.34	Determine either the longest side of a triangle given the three angle measures or the largest angle given the lengths of three sides of a triangle.			
	8. Review	1		

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	9. Test	1		• Chapter Test • Questions on Quarterly Assessment
	Total Days	**11**		
	QUARTERLY REVIEW	3		
QUARTER 3				
	Unit 6 – Similarity			
	1. Ratios and Proportions	1	• Textbook 6.1 • Supplemental Textbook 7.1 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – ratio, proportion, mean, and extreme			
	Express the relationship of 2 quantities as a ration in simplest form.			
	Define the product of the means equals the product of the extremes.			
	Given information construct a proportion that may be used to solve the problem.			
	Apply the product of the means equals the product of the extremes with numeric and algebraic problems.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).		• Archived Sequential II Regents Exams	
	2. Solving Proportions	2	• Textbook 6.2 • Supplemental Textbook 7.1 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – scale, scale drawings			
	Set up and solve proportions algebraically.			
	Apply the product of the means equals the product of the extremes to set up and solve numeric and algebraic problems.			
	Set up a proportion and solve given scale drawings or sale drawing problems.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	3. Similar Polygons	2	• Textbook 6.3 • Supplemental Textbook 7.3	• Class Work • Homework
	Vocabulary – similar polygons, scale factor, symbol (~)			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	Define similar polygons.		• Reviewing Integrated Mathematics Course II, 6.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Questions on quizzes & tests
	Define correct order in naming the figures.			
	Find and identify the equal angles and the sides that are in proportion given 2 similar polygons.			
	Determine the scale factor of similar polygons.			
	Determine the length of missing side(s) of similar polygons.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.CM.10	Use correct mathematical language in developing mathematical questions that elicit, extend, or challenge other students' conjectures.			
G.CN.5	Understand how quantitative models connect to various physical models and representations.			
G.R.2	Recognize, compare, and use an array of representational forms.			
	4. Pythagorean Theorem	1	• Textbook 7.1 • Supplemental Textbook 8.2 • Reviewing Integrated	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – Pythagorean theorem, Pythagorean triples, legs, hypotenuse			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	Define Pythagorean theorem.		Mathematics Course II, 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	
	Develop Pythagorean triples: 3, 4, 5 and 5, 12, 13 and 7, 24, 25 and 8, 15, 17, etc.			
	Apply Pythagorean theorem to find the missing side of a right triangle.			
	Apply Pythagorean triples and proportions to find missing sides of a triangle.			
	Given the lengths of the sides of a triangle determine whether or not the triangle is a right triangle.			
G.G.48	Investigate, justify, and apply the Pythagorean theorem and its converse.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	5. Similar Right Triangles	3	• Textbook 7.3 • Supplemental Textbook 8.1 • Reviewing Integrated Mathematics Course II, 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – altitude, leg and hypotenuse of right triangle, proportion			
	Demonstrate how to separate a right triangle into 3 similar triangles using the altitude of the larger triangle.			
	Use proportions to find missing parts of a right triangle with altitude to hypotenuse.			
	Determine the short leg, long leg, and hypotenuse of all 3 triangles.			
	Solve altitude to hypotenuse of a right triangle problem by setting up proportions of: $\frac{short}{long}$ or $\frac{short}{hypotenuse}$ or $\frac{long}{hypotenuse}$			
	Given a problem in word form, draw a diagram, set up the proportion and solve.			
G.G.47	Investigate, justify, and apply theorems about mean proportionality: • the altitude to the hypotenuse of a right triangle is the mean proportional between the two segments along the hypotenuse.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	• the altitude to the hypotenuse of a right triangle divides the hypotenuse so that either leg of the right triangle is the mean proportional between the hypotenuse and segment of the hypotenuse adjacent to that leg.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	6. Review	1		
	7. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**11**		
	Unit 7 – Polygons			
	1. Find Angle Measures in Polygons	2	• Section 8.1, pg. 507 • Supplemental Textbook, pg. 101 • NYSED math glossary and	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – diagonal, interior angles, exterior angles, concave polygon, convex polygon, quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, decagon			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Review polygons and their names based on the number of sides.		math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	
	Investigate and apply the sum of the interior angles of a polygon.			
	Determine the sum of the interior angles in a polygon.			
	Given the sum of interior angle of a polygon determine the number of sides.			
	Determine an unknown interior angle measure give either numeric or algebraic info about the other angles.			
	Investigate the sum of the exterior angles of a polygon.			
	Determine measures in a regular polygon, both numeric and algebraic.			
	Determine an unknown exterior angle measure.			
	Investigate and justify interior and exterior angle theorems.			
	Applications to word problems.			
G.G.36	Investigate, justify, and apply theorems about the sum of the measures of the interior and exterior angles of polygons.			
G.G.37	Investigate, justify, and apply theorems about each interior and exterior angle measure of regular polygons.			
G.PS.2	Observe and explain patterns to formulate generalizations and			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	conjectures.			
G.R.3	Use representation as a tool for exploring and understanding mathematical ideas.			
	2. Use Properties of Parallelograms	2	• Section 8.2, pg. 515 • Supplemental Textbook, pg. 167 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallelogram			
	Define and investigate the properties of a parallelogram.			
	Apply the properties of a parallelogram to numeric and algebraic problems to find lengths of sides and measures of angles.			
	Apply properties of parallelograms to find the value of the unknown variable.			
G.G.38	Investigate, justify, and apply theorems about parallelograms involving their angles, sides, and diagonals.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.CM.5	Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	3. Special Parallelograms: Rhombus, Rectangle, Square	2	• Section 8.4, pg. 533 • Supplemental Textbook, pg. 184 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – rhombus, rectangle, square			
	Define and identify the properties of a rhombus.			
	Apply the properties of a rhombus to numeric and algebraic properties.			
	Determine whether a quadrilateral is a rhombus from given info about sides and angles.			
	Define and identify the properties of a rectangle.			
	Apply the properties of a rectangle to numeric and algebraic properties.			
	Determine whether a quadrilateral is a rectangle from given info about sides and angles.			
	Define and identify the properties of a square.			
	Apply the properties of a square to numeric and algebraic properties.			
	Determine whether a quadrilateral is a square from given info about sides and angles.			
G.G.25	Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, bi-conditional)			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	is true.			
G.G.26	Identify and write the inverse, converse, and contrapositive of a given conditional statement and note the logical equivalences.			
G.G.36	Investigate, justify, and apply theorems about the sum of the measures of the interior and exterior angles of polygons.			
G.G.39	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
	4. Trapezoids and Mid-Segments of a Trapezoid	1	• Section 8.5, pg. 542 • Supplemental Textbook, pg. 190 • NYSED math glossary and math vocabulary list • McDougal supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – trapezoid, bases, base angles, legs, isosceles trapezoid, mid-segment of a trapezoid			
	Define and identify the parts of a trapezoid, including the bases, base angles and legs.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Define and identify an isosceles trapezoid.		materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	
	Apply properties of isosceles trapezoids and trapezoids to find measures of angles and lengths of line segments in both numeric and algebraic problems.			
	Define the mid-segment theorem of a trapezoid and apply to find length of mid-segment or either bases in either numeric or algebraic problems.			
G.G.40	Investigate, justify, and apply theorems about trapezoids (including isosceles trapezoids) involving their angles, sides, medians, and diagonals.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.RP.3	Investigate and evaluate conjectures in mathematical terms, using mathematical strategies to reach a conclusion.			
G.RP.5	Present correct mathematical arguments in a variety of forms.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	5. Mixed Review	2	• Section 8.5, pg. 542 • Supplemental Textbook, pg.	• Class Work • Homework
	Vocabulary – review the vocabulary from previous sections.			

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	Identify the different special quadrilaterals given specific facts.		190 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Questions on quizzes & tests
	Calculate the interior and exterior angles of a polygon.			
	Apply the properties of a parallelogram to numeric and algebraic problems to find lengths of sides and measures of angles.			
	Apply the properties of a square, rectangle, and rhombus to find variables, sides, and angles.			
	Determine whether a quadrilateral is a square, rectangle, or rhombus from given info about sides and angles.			
	NO COORDINATE GEOMETRY PROOFS AT THIS TIME!			
G.G.39	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and			

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	other representations when sharing an idea in verbal and written form.			
	6. Review	1		
	7. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**11**		
	Unit 8 – Circles			
	1. Introduction to Circles	1	• Textbook 10.1, pgs. 651-654 • Worksheets • Math Folder • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – circle, radius, chord, diameter, secant, tangent, point of tangency, common tangent, central angle, minor arc, major arc, semi-circle, measure of minor and major arc, congruent circles, congruent arc			
	Define and identify parts of a circle – arc, minor arc, major arc, and semi-circle (stress difference in notation from major and minor arcs).			
	Define and identify radius, chord, diameter, secant, and tangent.			
	Stress difference between segment, ray, and line notation.			
	Define and identify point of tangency, common tangent, central angle, semi-circle, congruent circles, and congruent arc.			

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	Describe that a tangent and radius are perpendicular at the point of tangency.			
	Discuss common tangents of two non-intersecting or tangent circles.			
G.G.49	Investigate, justify, and apply theorems regarding chords of a circle.			
G.G.50	Investigate, justify, and apply theorems about tangent lines to a circle.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle when the vertex is inside the circle.			
G.G.53	Investigate, justify, and apply theorems regarding segments intersected by a circle.			
G.CM.10	Use correct mathematical language in developing mathematical questions that elicit, extend, or challenge other students' conjectures.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	2. Central and Inscribed Angles	1	• Textbook 10.2, 10.4, pgs. 659,	• Class Work

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	Vocabulary – central angle, inscribed angle, intercepted arc		671-672 • Worksheets • Math Folder • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Homework • Questions on quizzes & tests
	Given information about the circle, find the measure of the arcs and apply to find the measure of the central angle.			
	Given the measure of an arc, find the measure of the central angle.			
	Given the measure of the central angle find the measure of the arc.			
	Given the measure of the arcs, find the measure of the inscribed angle.			
	Given the measure of the inscribed angle find the measure of the arcs.			
	Given the measure of the central angle find the measure of an inscribed angle.			
	Given the ratios of the arcs find the central or inscribed angles.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle when the vertex is inside the circle.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.R.5	Investigate relationships between different representations and their impact on a given problem.			
	3. Angles Formed by Chords, Secants and Tangents	5	• Textbook 10.1, 10.3, 10.5 • Worksheets • Math Folder • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – chord, secant, tangent, intercepted arc			
	Calculate the measure of an angle formed by two chords that intercept inside the circle.			
	Calculate the measure of an angle formed by two chords that intercept on the circle.			
	Find the measure of an angle and intercepted arcs formed by a tangent and chord that intercept on the circle.			
	Find the measure of an angle and intercepted arcs formed by a tangent and radius or diameter.			
	Find the measure of an angle and intercepted arcs formed by tangent and secant that intersect outside the circle.			
	Find the measure of an angle and intercepted arcs formed by tangent and secant that intersect on the circle.			
	Find the measure of an angle and intercepted arcs formed by two tangents that intersect outside the circle.			
	Find the measure of an angle and intercepted arcs formed by two tangents that intersect on the circle.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Find the measure of angle and intercepted arcs formed by two secants that intersect outside the circle.			
	Find the measure of an angle and intercepted arcs formed by two secants that intersect on the circle.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle when the vertex is inside the circle.			
G.G.53	Investigate, justify, and apply theorems regarding segments intersected by a circle.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.R.4	Select appropriate representations to solve problem situations.			
	4. Review	2	• Textbook pgs. 914, 922, 938	
	5. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**10**		
	QUARTERLY REVIEW			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
QUARTER 4				
	Unit 9 – Solids			
	1. Area of Regular Polygons	2	• Textbook 11.6, pg. 762 • Supplemental Textbook, pg. 440 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – polygon, regular polygon, apothem			
	Define the area of a regular polygon using apothem.			
	Determine the area of a regular polygon.			
	Determine the perimeter of a regular polygon.			
	Find the area of the shaded region.			
	Applications.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
A.G.1	Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle. *Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, quarter-circles, and regular polygons (perimeter only).*			

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	2. Volume of Prisms and Cylinders ***(given the formula for the volume of a cylinder on the regents exam)***	2	• Textbook 12.4, pg. 819 • Supplemental Textbook, pgs. 475, 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – volume, cube, prism, cylinder			
	Define and investigate the volume of a cube.			
	Define and investigate the formulas for the volume of a prism and the volume of a cylinder.			
	Determine the volume of a cube or cylinder.			
	Apply and compare the volumes of prisms and cylinders.			
	Given the volume and one piece of info find the missing height or radius.			
G.G.11	Know and apply that two prisms have equal volumes if their bases have equal areas and their altitudes are equal.			
G.G.12	Know and apply that the volume of a prism is the product of the area of the base and the altitude.			
G.G.14	Apply the properties of a cylinder, including: o bases are congruent. o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the			

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	product of an altitude and the circumference of the base.			
	3. Mixed Review of Regular Polygons, Prisms, and Cylinders	1	• Textbook 11.6, pg. 762, 12.4, pg. 819 • Supplemental Textbook, pgs. 475, 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – polygon, regular polygon, apothem, volume, cube, prism, cylinder			
	Determine the area of a regular polygon.			
	Determine the perimeter of a regular polygon.			
	Find the area of the shaded region.			
	Applications.			
	Determine the volume of a cube or cylinder.			
	Apply and compare the volumes of prisms and cylinders.			
	Given the volume and one piece of info find the missing height or radius.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
A.G.1	Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle.			

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	Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, quarter-circles, and regular polygons (perimeter only).			
G.G.11	Know and apply that two prisms have equal volumes if their bases have equal areas and their altitudes are equal.			
G.G.12	Know and apply that the volume of a prism is the product of the area of the base and the altitude.			
G.G.14	Apply the properties of a cylinder, including: o bases are congruent. o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
	4. Volumes of Pyramids and Cones (given formulas on regents exam)	2	• Textbook 12.5, pg. 829 • Supplemental Textbook, pgs. 482, 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – pyramid, cone, volume, triangular prism, triangular pyramid			
	Define and determine the volume of a pyramid theorem.			
	Define and determine the volume of a cone theorem.			
	Find a missing length given the volume.			

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	Explain the difference between a triangular prism and a triangular pyramid.		• regentsprep.org • jmap.org • NYSED sample tasks	
	Define and apply the formulas for the volume of a pyramid and a cone.			
	Applications.			
G.G.12	Know and apply that the volume of a prism is the product of the area of the base and the altitude.			
G.G.13	Apply the properties of a regular pyramid, including: o lateral edges are congruent lateral faces are congruent isosceles triangles.			
G.G.14	Apply the properties of a cylinder, including: o bases are congruent. o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
G.G.15	Apply the properties of a right circular cone, including: o volume is one-third the product of the area of its base and its altitude.			
G.PS.3	Use multiple representations to represent and explain problem situations (e.g., spatial, geometric, verbal, numeric, algebraic,			

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	and graphical representations).			
G.CM.4	Explain relationships among different representations of a problem.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.R.2	Recognize, compare, and use an array of representational forms.			
G.R.3	Use representation as a tool for exploring and understanding mathematical ideas.			
G.R.4	Select appropriate representations to solve problem situations.			
G.R.5	Investigate relationships between different representations and their impact on a given problem.			
	5. Surface Area & Volume of Spheres (given formulas on regents exam)	2	• Textbook 12.6, pg. 838 • Supplemental Textbook, pg. 497 • NYSED math glossary and math vocabulary list • McDougal supplemental	
	Vocabulary – sphere, center, radius, chord, diameter, great circle, hemispheres			
	Define and apply the theorem for the surface area of a sphere.			

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	Use the definition of a great circle to find the circumference of a sphere.		materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	
	Find the volume of a sphere.			
	Given the volume find a missing dimension.			
	Determine the surface area of a sphere.			
	Distinguish the difference between the surface area and the volume of a sphere.			
	Applications.			
G.G.14	Apply the properties of a cylinder, including: o bases are congruent. o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
G.G.15	Apply the properties of a right circular cone, including: o volume is one-third the product of the area of its base and its altitude.			
G.G.16	Apply the properties of a sphere, including: o surface area is $4\pi r^2$			

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	o volume is $\frac{4}{3}\pi r^3$			
	6. Review	2		
	7. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**12**		
	Unit 10 – Coordinate Geometry Proofs			
	1. Mid-Point and Distance Formulas	2	• Supplemental Textbook 13.1, 13.5 • Reviewing Integrated Mathematics Course II, 7.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –mid-point, distance slope, line segment			
	Given mid-point formula, find the mid-point of a line segment.			
	Given distance formula, find the length of a line segment.			
	Given coordinates of a figure apply the mid-point or distance formulas (e.g., Given coordinates of a parallelogram find the lengths of all sides and find mid-point of diagonals).			
G.G.66	Find the midpoint of a line segment, given its endpoints.			
G.G.67	Find the distance of a line segment, given its endpoints.			
G.R.2	Recognize, compare, and use an array of representational forms.			

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			• mathbits.org • NYSED sample tasks & sample tests • Graphing Calculator	
	2. Slope of Parallel & Perpendicular Lines	2	• Textbook 3.4, pg. 171 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallel, perpendicular, slope, slope formula, rise, run			
	Review the types of slopes (i.e., positive, negative, zero, undefined).			
	Find the slopes of lines given two points in the coordinate plane.			
	Find the slope of a line given two points, using the slope formula.			
	Define and apply the slopes of parallel lines postulate.			
	Define and apply the slopes of perpendicular lines postulate.			
A.A.33	Determine the slope of a line, given the coordinates of two points on the line.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	similarity, using algebraic strategies.			
G.CM.5	Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid.			
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
G.CN.5	Understand how quantitative models connect to various physical models and representations.			
	3. Coordinate Geometry Triangle Proofs	3	• Supplemental Textbook 13.8, 13.9 • Reviewing Integrated Mathematics Course II, 7.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks &	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – isosceles, equilateral, scalene, right triangles, mid-point formula, distance formula			
	Review properties of isosceles, equilateral, scalene, and right triangles that can be proven using mid-point or distance formula.			
	Investigate and devise coordinate geometry plans for proving triangles, isosceles, equilateral, scale, and right triangle.			
	Apply the distance formula to a proof given numeric or algebraic coordinates of vertices.			
	Apply the slope formula to a proof given numeric or algebraic coordinates of vertices.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance,			

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	midpoint, and slope formulas.		sample tests • Graphing Calculator	
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.1	Communicate verbally and in writing a correct, complete, coherent, and clear design (outline) and explanation for the steps used in solving a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.CN.3	Model situations mathematically, using representations to draw conclusions and formulate new situations.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	4. Coordinate Geometry Quadrilateral Proofs	6	• Supplemental Textbook 13.8, 13.9 • Reviewing Integrated Mathematics Course II, 7.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallelograms, rhombus, rectangle, square, trapezoid, isosceles trapezoid			
	Review properties of parallelograms, rhombus, rectangle, square, trapezoid, and isosceles trapezoid that can be proven using the distance, mid-point or slope formula.			
	Investigate and devise coordinate geometry plans to prove a			

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	quadrilateral is a parallelogram, rhombus, rectangle, square, trapezoid, or isosceles trapezoid.		• Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Graphing Calculator	
	Given numeric coordinates of a quadrilateral apply the plan to a coordinate geometry proof.			
	Prove type of quadrilateral using slope, distance, and mid-point formulas.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.1	Communicate verbally and in writing a correct, complete, coherent, and clear design (outline) and explanation for the steps used in solving a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.CN.3	Model situations mathematically, using representations to draw conclusions and formulate new situations.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
A.CM.1	Communicate verbally and in writing a correct, complete, coherent, and clear design (outline) and explanation for the steps used in solving a problem.			
A.RP.2	Use mathematical strategies to reach a conclusion and provide supportive arguments for a conjecture.			
	5. Investigate Using Technology	2	• Graphing Calculator • Cabri • Cabri, Jr.	• Class Work • Homework • Questions on quizzes & tests
	Use Cabri, Jr. to investigate the properties of triangles and quadrilaterals.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
A.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
A.RP.2	Use mathematical strategies to reach a conclusion and provide supportive arguments for a conjecture.			
	6. Review	2		

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	7. Test	1		• Chapter Test • Questions on Quarterly Assessment
	Total Days	**18**		
	FINAL EXAM REVIEW			
	Optional topics to be completed if time allows:			
	Optional Topic 1 – Logic			
	1. Written Expression	1	• Textbook 2.2, pg. 79 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – open sentence, statement, truth value, negation, converse			
	Differentiate between an open sentence and a statement.			
	Translate written expressions to symbolic representation (p, q, ~, etc.).			
G.G.24	Determine the negation of a statement and establish its truth value.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
G.CN.7	Recognize and apply mathematical ideas to problem situations			

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	that develop outside of mathematics.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
	2. Conjunction and Disjunction	1	• Textbook 2.2, pg. 79 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – conjunction, disjunction, compound statement			
	Define conjunctions and disjunctions of statements.			
	Translate written statements into symbolic statements using and or or.			
	Translate symbolic statements to written statements.			
	Construct truth tables for conjunction and disjunction.			
	Given the truth values of p & q find the truth of the conjunction or disjunction statement.			
	Given the statements truth value and the truth value for one piece of the statement, find the possible truth for the other piece.			

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G.G.25	Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, and bi-conditional) is true.			
G.CN.7	Recognize and apply mathematical ideas to problem situations that develop outside of mathematics.			
	3. Conditional and Bi-Conditional	2	• Textbook 2.2, pg. 79 • Supplemental Text, pg. 33 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – conditional, bi-conditional, hypotheses, conclusion, hidden conditional			
	Define conditional and bi-conditional expressions.			
	Translate written statements into symbolic statements.			
	Translate symbolic statements into written statements.			
	Define and identify hypotheses and conclusion.			
	Identify conditional statements that do not use if-then (hidden conditionals) & rewrite as conditionals.			
	Determine the truth value of a conditional statement in symbolic & written form.			
	Determine the truth value of a bi-conditional statement in written & symbolic form.			
G.G.25	Know and apply the conditions under which a compound			

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	statement (conjunction, disjunction, conditional, and bi-conditional is true.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.CM.12	Draw conclusions about mathematical ideas through decoding, comprehension, and interpretation of mathematical visuals, symbols, and technical writing.			
	4. Related Conditionals	1	• Textbook 2.2, pg. 79 • Supplemental Text, pg. 208 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – inverse, converse, contrapositive, logically equivalent, equivalent statements			
	Identify the inverse, converse, and contrapositive of a given conditional statement.			
	Determine the converse, inverse & contrapositive of a conditional statement in both symbolic & written form.			
	Justify the logical equivalence of a statement & its contrapositive.			
	Determine a statement logically equivalent to a conditional statement – both symbolic & written			
G.G.26	Identify and write the inverse, converse, and contrapositive of a			

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	given conditional statement and note the logical equivalences.			
G.R.7	Use mathematics to show and understand social phenomena (e.g., determine if conclusions from another person's argument have a logical foundation).			
	5. Truth Tables	2	• Textbook 2.2, pg. 96 • Supplemental Text, pg. 644 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – truth table, truth values, inductive reasoning, justify			
	Construct a truth table for a given compound statement.			
	Justify that two complex statements are equivalent by showing they have same truth values.			
G.G.25	Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, and bi-conditional is true.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
G.PS.6	Use a variety of strategies to extend solution methods to other problems.			
G.RP.5	Present correct mathematical arguments in a variety of forms.			
	6. Laws of Logic	2	• Textbook 2.3, pg. 87	• Class Work

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	Vocabulary – contrapositive inference, detachment, chain rule, DeMorgan's, disjunctive inference, argument, inductive reasoning, value argument		• Supplemental Text, pgs. 648, 651 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Homework • Questions on quizzes & tests
	Define DeMorgan's law to find the negation of a conjunction or disjunction in both written and symbolic form.			
	Define the laws of contrapositive inference, detachment, chain rule and disjunctive inference.			
	Apply the laws of logic to find the conclusion, give a compound statement and a single statement both written & symbolic.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
	7. Logic Proofs	2	• Textbook 2.3, pg. 87 • Supplemental Text, pgs. 648, 651 • Worksheets • Math Folder • NYSED Math Glossary and Math Vocabulary List • McDougal Supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – two-column proof, contrapositive, contrapositive inference, detachment, chain rule, DeMorgan's, disjunctive inference, valid argument, inductive reasoning			
	Construct a 2-column direct logic proof given multiple statements.			
G.G.27	Write a proof arguing from a given hypothesis to a given			

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	conclusion.		Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	
G.CM.12	Draw conclusions about mathematical ideas through decoding, comprehension, and interpretation of mathematical visuals, symbols, and technical writing.			
G.PS.7	Work in collaboration with others to propose, critique, evaluate, and value alternative approaches to problem solving.			
G.CN.4	Understand how concepts, procedures, and mathematical results in one area of mathematics can be used to solve problems in other areas of mathematics.			
G.RP.9	Apply inductive reasoning in making and supporting mathematical conjectures.			
	8. Review	1		
	9. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**13**		
	Optional Topic 2 - Transformations			
	1. Intro to Transformations	1	• Textbook 7.6, 14.1 • NYSED Math Glossary and Math Vocabulary List	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – transformation, image, pre-image, mapping, orientation, reflection, rotation, translation, glide reflection,			

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	dilations, isometry		• McDougal Supplemental Materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	
	Define and give properties of reflections, rotation, translations, glide reflections and dilations.			
	Investigate which transformations are isometries and which are not isometries.			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
	2. Line Reflections and Translations	2	• Textbook 7.6, 9.1, 9.3, 14.2, 14.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – reflection, line reflection, translation			
	Define line reflection and its proper notation.			
	Define and apply line reflections in x = 0, y = 0, and y = x.			
	Given a point find its image under a translation.			
	Given an image find the pre-image under a translation.			
	Given a point and its image under a translation apply the same translation to another point.			
	Find the image of a geometric figure under a line reflection or			

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	translation (i.e., given triangle ABC find the coordinates of triangle A'B'C under $T_{3,1}$).			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.G.55	Investigate, justify, and apply the properties that remain invariant under translations, rotations, reflections, and glide reflections.			
G.G.56	Identify specific isometries by observing orientation, numbers of invariant points, and/or parallelism.			
G.G.57	Justify geometric relationships (perpendicularity, parallelism, congruence) using transformational techniques (translations, rotations, reflections).			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	3. Rotations	2	• Textbook 7.6, 9.4, 14.4 • NYSED math glossary and	• Class Work • Homework
	Vocabulary – rotation, center of rotation, angle of rotation,			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	clockwise rotation, counterclockwise rotation		math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	• Questions on quizzes & tests
	Define and investigate rotations.			
	Define and identify symbols for rotations.			
	Define and apply R_{90} and R_{180} to points (rotations about the origin).			
	Justify that a rotation is a direct isometry.			
	Apply rotations to find the image of a geometric figure.			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.G.55	Investigate, justify, and apply the properties that remain invariant under translations, rotations, reflections, and glide reflections.			
G.G.61	Investigate, justify, and apply the analytical representations for translations, rotations about the origin of 90º and 180º, reflections over the lines $x = 0$, $y = 0$, and $y = x$, and dilations centered at the origin.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	4. Dilations and Glide Reflections	2	• Textbook 7.6, 9.5, 9.7, 14.3, 14.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – composition of line reflections, dilations, glide reflections			
	Define and investigate dilations and its notation.			
	Determine the image of a point or figure after dilation.			
	Determine the scale factor of dilation.			
	Define and investigate glide reflections (composition of these line reflections).			
	Define the image of a point or figure after a glide reflection.			
	Justify the properties of dilations and glide reflections that remain invariant.			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.G.55	Investigate, justify, and apply the properties that remain invariant under translations, rotations, reflections, and glide			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	reflections.			
G.G.57	Justify geometric relationships (perpendicularity, parallelism, congruence) using transformational techniques (translations, rotations, reflections).			
G.G.58	Define, investigate, justify, and apply similarities (dilations and the composition of dilations and isometries).			
G.G.59	Investigate, justify, and apply the properties that remain invariant under similarities.			
G.G.60	Identify specific similarities by observing orientation, numbers of invariant points, and/or parallelism.			
G.G.61	Investigate, justify, and apply the analytical representations for translations, rotations about the origin of 90º and 180º, reflections over the lines $x = 0$, $y = 0$, and $y = x$, and dilations centered at the origin.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.4	Explain relationships among different representations of a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	5. Symmetries	1	• Textbook 9.6, 14.6, 14.8 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – line symmetry, point symmetry			
	Define and identify line symmetry in shapes, figures and pictures.			
	Define and identify point symmetry in shapes, figures and pictures.			
	Given a figure identify its symmetries.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.RP.1	Recognize that mathematical ideas can be supported by a variety of strategies.			
G.CM.4	Explain relationships among different representations of a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	6. Tessellations and Applications	2	• Textbook 9.5, 14.6 • Ext. pgs. 616-618 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – tessellations			
	Define and identify a tessellation.			
	Define and be able to identify a regular tessellation.			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.G.56	Identify specific isometries by observing orientation, numbers of invariant points, and/or parallelism.			
G.G.57	Justify geometric relationships (perpendicularity, parallelism, congruence) using transformational techniques (translations, rotations, reflections).			
G.G.60	Identify specific similarities by observing orientation, numbers of invariant points, and/or parallelism.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.4	Explain relationships among different representations of a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	7. Review	1		
	8. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**12**		