



Grade 10 / Quarters 1-4 Integrated Geometry 206

STANDARDS

Key Ideas, Major Understandings, Performance Indicators, Competencies

Pacing Days (Plan #)

RESOURCES

Print, Visual, Technology,
Manipulatives

ASSESSMENT

Evidence & Scoring
Guides

QUARTER 1				
	Unit 1 – Logic			
	1. Written Expression	1	<ul style="list-style-type: none"> • Textbook 2.2 & pg. 95 • Supplemental textbook pg. 645 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks & Sample Test • mathbits.org • Archived Sequential II Regents Exams 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – open sentence, statement, truth value, negation, converse			
	Differentiate between an open sentence and a statement.			
	Translate written expressions to symbolic representation (p, q, ~, etc).			
	Determine the negation of a statement and establish its truth value.			
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 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			



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	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	<ul style="list-style-type: none"> • Textbook 2.2 & pg. 95 • Supplemental Textbook pg 644 • 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 Exam 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – conjunction, disjunction, compound statement			
	Define conjunctions and disjunctions of statements.			
	Translate written statements into symbolic statements using and 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 value for the other piece.			
G.G.25	Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, biconditional) is true.			
G.CN.7	Recognize and apply mathematical ideas to problem situations that develop outside of mathematics.			



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3. Conditional and Biconditional		1		
	<i>Vocabulary</i> – conditional, biconditional, hypotheses, conclusion, hidden conditional			<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	Define conditional and biconditional 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 biconditional statement in written & symbolic form.			
G.G.25	Know and apply the conditions under which a compound statement (conjunction, disjunction, conditional, biconditional) 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,			



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	comprehension, and interpretation of mathematical visuals, symbols, and technical writing.			
	4. Related Conditionals	1	<ul style="list-style-type: none"> • Textbook pgs. 80, 94 • Supplemental textbook pg. 208 • 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 Exam 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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 statements 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 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	1	<ul style="list-style-type: none"> • Textbook 2.3 & pg. 95 • Supplemental textbook pg. 644 	<ul style="list-style-type: none"> • Class Work • Homework
	<i>Vocabulary</i> – truth table, truth values, inductive reasoning,			



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	justify		<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Questions on quizzes & tests
	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, biconditional) 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	1	<ul style="list-style-type: none"> • Textbook pg. 87 • Supplement Laws 2.3 • Supplemental text- pgs.648, 651 • NYSED math glossary and math vocabulary list • McDougal supplemental materials 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – contrapositive inference, detachment, chain rule, DeMorgan’s, disjunctive inference, argument, inductive reasoning, value argument			
	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.			



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	Apply the laws of logic to find the conclusion and give a compound statement and a single statement both written & symbolic.		<ul style="list-style-type: none"> • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exam 	
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	<ul style="list-style-type: none"> • Textbook 2.2 pg. 79 • For proofs – See reviewing integrated mathematics course II pg 15 - 19 • NYSED math glossary and math • vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – two-column proof, contrapositive, contrapositive inference, detachment, chain rule, DeMorgan’s, disjunctive inference, valid argument, 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 conclusion.			
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.			



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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.		<ul style="list-style-type: none"> Archived Sequential II Regents Exams 	
G.RP.9	Apply inductive reasoning in making and supporting mathematical conjectures.			
	8. Indirect Proofs	1	<ul style="list-style-type: none"> Textbook 2.2 pg. 79 Supplemental textbook pg. 214 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 	<ul style="list-style-type: none"> Class Work Homework Questions on quizzes & tests
	<i>Vocabulary</i> – two-column proof, contrapositive, contrapositive inference, detachment, chain rule, DeMorgan's, disjunctive inference, argument, inductive reasoning, valid argument			
	Construct a 2-column indirect logic proof by assuming that the opposite is true and show a contradiction.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
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.			
	9. Direct & Indirect Proofs	1	<ul style="list-style-type: none"> Textbook 2.2 pg. 79 	<ul style="list-style-type: none"> Class Work



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	<i>Vocabulary</i> – two-column proof, contrapositive, contrapositive inference, detachment, chain rule, DeMorgan's, disjunctive inference, valid argument, argument, inductive reasoning		<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Homework • Questions on quizzes & tests
	Mixed review of direct and indirect logic proofs.			
	Include more difficult problems.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
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.PS.10	Evaluate the relative efficiency of different representations and solution methods of a problem.			
	11. Review	1		
	12. Test	1	Test Generator	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment



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	Total Days	12		
	Unit 2 – Introduction to Euclidean Geometry			
	1. Identify Points, Lines and Planes	1	<ul style="list-style-type: none"> • Textbook 1.1 pg. 2 • Supplemental Textbook pg. 5 • 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 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – undefined terms, point, line, plane, collinear, coplanar, defined terms, line segment, ray, endpoints, opposite rays, intersection, perpendicular, parallel, angles, parallel planes, non-coplanar, 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.			
	Applications to planar word problems.			
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. Segment addition and the Measure and Classification of Angles	.5	<ul style="list-style-type: none"> • Textbook 1.4 pg. 24 • Supplemental Textbook pg. 17 • 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 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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 Segment Addition Postulate.			
	Define and apply the Angle addition Postulate.			
	Distinguish the correct notation for when angles are equal (=) and for when they are congruent (\cong).			
	Numerical and algebraic applications of segment addition postulate and angle addition.			



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G.PS.6	Use a variety of strategies to extend solution methods to other problems.			
	3. Describe Angle Pair Relationships	.5	<ul style="list-style-type: none"> • Textbook 1.5 pg. 33 • Supplemental Textbook pg. 50 • 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 	<ul style="list-style-type: none"> • 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.			
8.G.1	Identify pairs of vertical angles as congruent.			
8.G.2	Identify pairs of supplementary and complementary angles.			
8.G.3	Calculate the missing angle in a supplementary or complementary pair.			
8.G.4	Determine angle pair relationships when given two parallel lines			



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	cut by a transversal.			
8.G.5	Calculate the missing angle measurements when given two parallel lines cut by a transversal.			
8.G.6	Calculate the missing angle measurements when given two intersecting lines and an angle.			
G.PS.3	Use multiple representations to represent and explain problem situations (e.g., spatial, geometric, verbal, numeric, algebraic, 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.			



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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.			
	4. Use Postulates and Diagrams	.5	<ul style="list-style-type: none"> • Textbook 2.4 pg. 96 • Supplemental Textbook pg. 22 • 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 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – line perpendicular to a plane, postulate			
	Develop the axiomatic geometric system between postulates and theorems.			
	Define and explain the following postulates: <ul style="list-style-type: none"> ○ Segment Addition Postulate: If B is between A and C, then $AB + BC = AC$. If $AB + BC = AC$, then B is between A and C. ○ Angle Addition Postulate ○ Through any two points there exists exactly one line. ○ A line contains at least two points. ○ If two lines intersect, then their intersection is exactly one point. ○ Through any three non collinear points there exists exactly one plane. 			



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	<ul style="list-style-type: none"> ○ A plane contains at least three non collinear points ○ If two points lie in a plane, then the line containing them lies in the plane ○ If two planes intersect, then their intersection is a line 			
	Given a diagram identify all applied postulates.			
	Given a planar diagram identify points, lines, planes and collinear points.			
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 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			



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	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.			
G.RP.8	Devise ways to verify results or use counterexamples to refute incorrect statements.			
G.CM.5	Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid.			
G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			
G.CN.5	Understand how quantitative models connect to various physical models and representations.			
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.CN.7	Recognize and apply mathematical ideas to problem situations that develop outside of mathematics.			



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G.CN.8	Develop an appreciation for the historical development of mathematics.			
	5. Angle Pair Relationships Proofs	1	<ul style="list-style-type: none"> • Textbook 2.7 pg. 122 • 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 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – complementary angles, supplementary angles, vertical angles, linear pair, inductive reasoning, deductive reasoning			
	Explain the difference between inductive & deductive reasoning (stress the fact that a Euclidean proof, direct or indirect, is a deductive proof).			
	Define and apply the congruent supplements theorem in a two-column proof.			
	Define and apply the congruent complements theorem in a two-column proof.			
	Define and apply the linear pair postulate in a two-column proof.			
	Define and apply the vertical angles congruence theorem in a two-column proof.			
	Given an angle measure, find its complement or supplement.			
	Applications.			
G.G.27	Write a proof arguing from a given hypothesis to a given			



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	conclusion.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
G.PS.8	Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions.			
G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
G.RP.3	Investigate and evaluate conjectures in mathematical terms, using mathematical strategies to reach a conclusion.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
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.12	Draw conclusions about mathematical ideas through decoding, comprehension, and interpretation of mathematical visuals, symbols, and technical writing.			
	6. Angles Formed by Parallel & Perpendicular Lines	.5	• Textbook 3.1 pg. 146	• Class Work



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	<i>Vocabulary</i> – parallel lines, skew lines, parallel, perpendicular, transversal, corresponding angles, alternate interior angles, alternate exterior angles, consecutive interior angles		<ul style="list-style-type: none"> • Supplemental Textbook pg. 50 • 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 	<ul style="list-style-type: none"> • Homework • Questions on quizzes & tests
	Identify skew lines.			
	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.			
	Define the parallel and perpendicular postulates.			
	Classify according to angle pair relationships (i.e, corresponding angles).			
	Calculate the missing angle in a supplementary or complementary pair both algebraic and numerical given a diagram.			
	Calculate the missing angle measurements when given two parallel lines cut by a transversal both algebraic and numerical given a diagram.			
8.G.1	Identify pairs of vertical angles as congruent.			
8.G.2	Identify pairs of supplementary and complementary angles.			
8.G.3	Calculate the missing angle in a supplementary or			



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	complementary pair.			
8.G.4	Determine angle pair relationships when given two parallel lines cut by a transversal.			
8.G.5	Calculate the missing angle measurements when given two parallel lines cut by a transversal.			
G.PS.8	Determine information required to solve a problem, choose methods for obtaining the information, and define parameters for acceptable solutions.			
G.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
	7. Use parallel lines and transversals	.5	<ul style="list-style-type: none"> • Textbook 3.2 pg. 153 • Supplemental Textbook pg. 78 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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.			
	Define and apply the alternate interior angles theorem.			
	Define and apply the alternate exterior angles theorem.			



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	Define and apply the consecutive interior angles theorem.		sample test	
	Apply the above theorems to solve numeric and algebraic word problems.		<ul style="list-style-type: none"> Archived Sequential II Regents Exams 	
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 mathematics.			
	8. Parallel Line Proofs	1	<ul style="list-style-type: none"> Textbook 3.3 pg. 161 	<ul style="list-style-type: none"> Class Work



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	<i>Vocabulary</i> – informal proof, two-column proof, converse, formal proof, deductive reasoning, inductive reasoning		<ul style="list-style-type: none"> • Supplemental Textbook pg. 83 • 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 	<ul style="list-style-type: none"> • Homework • Questions on quizzes & tests
	Define and apply the corresponding angles converse theorem to proofs.			
	Define and apply the alternate interior angles converse theorem to proofs.			
	Define and apply the alternate exterior angles converse theorem to proofs.			
	Define and apply the consecutive interior angles converse theorem to proofs.			
	Apply the above converses in two-column proofs.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
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.7	Construct a proof using a variety of methods (e.g., deductive,			



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	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.CM.5	Communicate logical arguments clearly, showing why a result makes sense and why the reasoning is valid.			
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 mathematics.			
	9. Prove Theorems about Perpendicular Lines	1	<ul style="list-style-type: none"> • Textbook 3.6 pg. 190 • Supplemental Textbook pg. 56 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – perpendicular lines, parallel lines, transversal			
	Define and apply the theorems of perpendicular lines: <ul style="list-style-type: none"> ○ If two lines intersect to form a linear pair of congruent angles, then the lines are perpendicular ○ If two lines are perpendicular, then they intersect to form four right angles ○ If two sides of two adjacent acute angles are perpendicular, then the angles are complementary 			
	Define and apply the theorems of perpendicular lines in two-column proofs.			



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	Define and apply the perpendicular transversal theorem.		<ul style="list-style-type: none"> Archived Sequential II Regents Exams 	
	Define and apply lines perpendicular to a transversal theorem.			
	Draw conclusions from a given diagram.			
	Prove statements using theorems of perpendicular lines.			
	Do more difficult proofs for each of the above.			
	Applications.			
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.RP.2	Recognize and verify, where appropriate, geometric relationships of perpendicularity, parallelism, congruence, and similarity, using algebraic strategies.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			
G.CM.7	Read and listen for logical understanding of mathematical thinking shared by other students.			



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G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	10. Review	1		
	11. Test	1	Test Generator	<ul style="list-style-type: none"> Chapter Test Questions on Quarterly Assessment
	Total Days	9		
	Unit 3 – Congruent Triangles			
	1. Introduction to Triangles	2	<ul style="list-style-type: none"> Chapter 4.1 Supplemental Textbook Textbook 3.4 Reviewing Integrated mathematics course II Textbook 5.2 NYSED math glossary and math vocabulary list McDougal supplemental materials Classzone.com regentsprep.org jmap.org mathbits.org NYSED sample tasks & 	<ul style="list-style-type: none"> Class Work Homework Questions on quizzes & tests
	<i>Vocabulary</i> - 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.			



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G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.		<ul style="list-style-type: none"> sample tests • Archived Sequential II Regents Exams 	
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
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	<ul style="list-style-type: none"> • Textbook 4.2 • Supplemental Textbook • Textbook 4.1 • Reviewing Integrated mathematics course II Textbook 5.2 • NYSED math glossary and math vocabulary list • McDougal supplemental 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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.			



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	Define and explain reflexive, symmetric, transitive properties of triangles.		<ul style="list-style-type: none"> materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams 	
	Given two congruent triangles that are labeled and marked, determine the theorems of the congruent triangles.			
	Given two marked triangles determine if the triangles are congruent by SSS, SAS, ASA, AAS or HL.			
G.G.29	Identify corresponding parts of congruent triangles.			
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, SAS, ASA	1	<ul style="list-style-type: none"> • Textbook 4.3 • Supplemental Textbook • Textbook 4.2 • Reviewing Integrated mathematics course II Textbook 4.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – SSS, congruent, congruent triangles Define and explain SSS, SAS, ASA congruency.			
	Given two triangles that are marked, name the 2 congruent triangles (in proper order & notation).			
	Construct a two-column SSS, SAS, ASA proofs.			
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.			



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G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).		<ul style="list-style-type: none"> regentsprep.org 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.CN.8	Develop an appreciation for the historical development of mathematics.			
	4. AAS and HL Triangle Congruency	1	<ul style="list-style-type: none"> Textbook 4.4 Supplemental Textbook 4.2 Reviewing Integrated mathematics course II Textbook 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 	<ul style="list-style-type: none"> Class Work Homework Questions on quizzes & tests
	<i>Vocabulary</i> – SAS, HL			
	Construct mixed SSS, SAS, and HL to congruent triangle proofs (HL will need supplements).			
	Prove overlapping triangles are congruent by SAS or HL.			
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.		Regents Exams	
	5. ASA and AAS triangle congruency	1	<ul style="list-style-type: none"> • Textbook 4.5 • Supplemental Textbook • Textbook 4.2 • Reviewing Integrated mathematics course II Textbook 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 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – ASA, AAS			
	Construct mixed ASA, AAS congruent triangle proofs.			
	Prove overlapping triangles are congruent by ASA and AAS.			
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. Mixed and Congruent triangle proofs that use betweenness or angle addition postulate	1	<ul style="list-style-type: none"> • Textbook 2.6 pg. 112 • Supplemental Textbook pgs. 11 & 17 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – proof, two-column proof, theorem, postulate			



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	Define Angle Addition Postulate.		<ul style="list-style-type: none"> • 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 	
	Define Reflexive, Symmetric & Transitive for angles and segments.			
	Define and apply the congruence of segments theorem in a two-column proof.			
	Define and apply the congruence of angles theorem in a two-column proof.			
	Use properties of equality in a two-column proof.			
	Given an example, name the property used.			
	Given a 2 column proof with missing reasons, fill in the appropriate reason.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
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)			



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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.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.8	Develop an appreciation for the historical development of mathematics.			
	7. CPCTC Proofs	1	<ul style="list-style-type: none"> • Textbook 4.6 • Supplemental Textbook • Textbook 4.3 • Reviewing Integrated mathematics course II Textbook 4.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – Corresponding parts of Congruent triangles are congruent – CPCTC			
	Explain the difference between inductive & deductive reasoning.			
	Use any of methods to prove triangles are congruent to each other given sufficient information.			
	Prove parts of triangles are congruent to each other (CPCTC).			
G.G.28	Determine the congruence of two triangles by using one of the			



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	five congruence techniques (SSS, SAS, ASA, AAS, HL), given sufficient information about the sides and/or angles of two congruent triangles.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams 	
G.G.29	Identify corresponding parts of congruent triangles.			
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.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	8. Isosceles and Equilateral Triangles	1	<ul style="list-style-type: none"> • Textbook 4.7 • Supplemental Textbook • Textbook 4.4 • Reviewing Integrated mathematics course II Textbook 4.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – isosceles triangles, equilateral triangles, legs, base, vertex and base angles of triangle			
	Given the measure of one angle of an isosceles triangle, determine the measure of the other 2 angles (both numeric & algebraic).			
	Given the measure of one leg of an isosceles triangle, determine the measure of the other leg (both numeric & algebraic).			
	Determine the lengths of sides and/ or angles.			



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G.G.31	Investigate, justify, and apply the isosceles triangle theorem and its converse.		<ul style="list-style-type: none"> Classzone.com regentsprep.org jmap.org mathbits.org NYSED sample tasks & sample tests Archived Sequential II Regents Exams 	
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.			
	9. Isosceles and Equilateral Triangles in Congruent Triangle Proofs	2	<ul style="list-style-type: none"> Textbook 4.7 Supplemental Textbook Textbook 4.4 & 4.6 Reviewing Integrated mathematics course II Textbook 4.4 NYSED math glossary and math vocabulary list McDougal supplemental materials Classzone.com regentsprep.org jmap.org mathbits.org NYSED sample tasks & 	<ul style="list-style-type: none"> Class Work Homework Questions on quizzes & tests
	<i>Vocabulary</i> – isosceles triangles, equilateral triangles, legs, base, vertex and base angles of triangle			
	Apply isosceles triangles as a given in congruent triangle proofs.			
	Apply isosceles triangles as a given in CPCTC proofs.			
	Apply congruent triangles proofs to prove triangles are isosceles.			
	Apply congruent triangles proofs to prove triangles are equilateral.			
G.G.29	Identify corresponding parts of congruent triangles.			
G.RP.7	Construct a proof using a variety of methods (e.g., deductive, analytic, transformational).			



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G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.		sample tests • Archived Sequential II Regents Exams	
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.CN.8	Develop an appreciation for the historical development of mathematics.			
	10. Mixed Congruent Triangle Proofs	2	<ul style="list-style-type: none"> • Supplemental Textbook • Textbook 4.6, 4.4, 4.7 • Reviewing Integrated mathematics course II Textbook 4.3, 4.4, 4.6 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – SSS, SAS, AAS, ASA, HL, CPCTC			
	Prove triangles are congruent by SSS, SAS, AAS, ASA or HL by two column proofs (overlapping figures, share common angles or sides, isosceles, equilateral, etc.).			
	Prove sides or angles are congruent of congruent triangles (CPCTC).			
	Include more difficult problems.			
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.			



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G.G.29	Identify corresponding parts of congruent triangles.		sample tests • Archived Sequential II Regents Exams	
G.G.31	Investigate, justify, and apply the isosceles triangle theorem and its converse.			
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.			
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.			
	11. Review	1		
	12. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	15		
	Cyclic Review for Quarterly Exam	3		• Quarterly Exam
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Unit 4 – Special Segments in Triangles				
	1. Numerical Radicals	1		
	<i>Vocabulary</i> – radical, radicand, index, square root, cube root, coefficient			
	Define and identify the radicand, index, square root, cube root, and coefficient.			
	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	<ul style="list-style-type: none"> • Textbook 5.1 • NYSED math glossary and math vocabulary list 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – midpoint, mid-segments, parallel, mid-segment theorem			



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	Define and identify the midpoints of the three sides of a triangle.		<ul style="list-style-type: none"> • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • SMART View • SMART Board • NYSED sample tasks & Sample test • Graphing calculator • Cabri, Jr. • Cabri software- • Patty paper 	
	Define and identify, and investigate 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 the triangle.			
	Justify the mid-segment theorem.			
G.G.42	Investigate, justify, and apply theorems about geometric relationships based on the properties of the line segment joining the midpoint 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, and 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,			



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	equations, or objects created using technology as representations of mathematical concepts.			
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.			
	3. Perpendicular Bisectors	1	<ul style="list-style-type: none"> • Textbook 5.2 • Supplemental textbook 152 • NYSED math glossary and math vocabulary list • Graphing calculator • Cabri • Cabri Jr. • SMART View • NYSED sample tasks & sample test • mathbits.com • regentsprep.org • jmap.org • mathbits.org • Patty paper 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – perpendicular, \perp , equidistant, endpoints of a line segment, concurrent, point of concurrency, circumcenter			
	Define perpendicular bisector (Stress use of perpendicular symbol).			
	Investigate the perpendicular bisector theorem & converse.			
	Apply the perpendicular bisector theorem to numeric and algebraic problems.			
	Investigate and apply the converse of the perpendicular bisector theorems.			
	Investigate the concurrency of the perpendicular bisectors.			
	Define and find the circumcenter of a triangle.			
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			



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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, and diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., use investigation, discovery, conjecture, reasoning, arguments, justification and proofs to validate that the two base angles of an isosceles triangle are congruent).			
	4. Angle Bisectors	1	<ul style="list-style-type: none"> • Textbook 5.3 • Supplemental textbook 152 • NYSED sample tasks & sample test • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • mathbits.org 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – bisector, angle bisector, angle bisector theorem, converse of angle bisector theorem, concurrency, incenter			
	Define angle bisector.			
	Investigate the angle bisector theorem.			
	Prove pg. 316 #36.			
	Apply the angle bisector theorem to numeric and algebraic problems.			



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	Investigate and apply the converse of the angle bisector theorems.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • Patty paper 	
	Investigate the concurrency of the angle bisectors.			
	Define and find the incenter of a triangle.			
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, and diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., use investigation, discovery, conjecture, reasoning, arguments, justification and proofs to validate that the two base angles of an isosceles triangle are congruent).			
	5. Medians and altitudes	1	<ul style="list-style-type: none"> • Textbook 5.4 • Supplemental textbook 152 	<ul style="list-style-type: none"> • Class Work • Homework
	<i>Vocabulary</i> – median, median of a triangle, concurrency,			



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	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.		
	Investigate the concurrency of medians of a triangle at the centroid.		
	Define and apply the theorem about the centroid of a triangle, dividing each median into segments whose lengths are in the ratio 2:1 to numeric and algebraic problems.		
	Define and find the altitudes of a triangle.		
	Prove properties of isosceles triangles.		
	Investigate the concurrency of altitudes of a triangle at the orthocenter.		
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		

- NYSED sample tasks & sample tests
- NYSED math glossary and math vocabulary list
- McDougal supplemental materials
- Classzone.com
- regentsprep.org
- jmap.org
- mathbits.org
- SMART Board
- Cabri
- Cabri Jr
- Patty paper

- Questions on quizzes & tests



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	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, and diagrams.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., use investigation, discovery, conjecture, reasoning, arguments, justification and proofs to validate that the two base angles of an isosceles triangle are congruent).			
	6. Inequalities in Triangles	1	<ul style="list-style-type: none"> • Textbook 5.5 • Textbook pg. 219 • Supplemental textbook 95, 203, 219, • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org 	
	<i>Vocabulary</i> – 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.			
	Investigate and justify the triangle inequality theorem.			
	Define and justify that an exterior angle of a triangle is equal to			



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	the sum of the two remote interiors.			
	Apply the exterior angle theorem to numeric and algebraic problems.			
	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.			
G.G.32	Investigate, justify, and apply theorems about geometric inequalities, using the exterior angle 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.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., use investigation, discovery, conjecture, reasoning, arguments, justification and proofs to validate that the two base angles of an isosceles triangle are congruent).			
	7. Triangle inequalities and Indirect Proofs	2	<ul style="list-style-type: none"> • Textbook 5.6 • Supplemental textbook 95, 203, 214, 219 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – hinge theorem, indirect proof, assumption, contradiction			



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	Define the hinge theorem.		<ul style="list-style-type: none"> • NYSED sample tasks • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • SMART Board • Cabri • Cabri, Jr. 	
	Given 2 sides of a triangle find the possible length of the third side.			
	Given the lengths of 3 line segments determine if a triangle can be formed.			
	Define indirect proofs.			
	Apply indirect proofs to inequality proofs.			
G.G.27	Write a proof arguing from a given hypothesis to a given conclusion.			
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.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
G.RP.3	Investigate and evaluate conjectures in mathematical terms, using mathematical strategies to reach a conclusion.			
G.RP.4	Provide correct mathematical arguments in response to other students' conjectures, reasoning, and arguments.			



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G.RP.5	Present correct mathematical arguments in a variety of forms.			
G.RP.6	Evaluate written arguments for validity.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., use investigation, discovery, conjecture, reasoning, arguments, justification and proofs to validate that the two base angles of an isosceles triangle are congruent).			
	8. Review	1		
	9. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total Days	10		
	Unit 5 - Similarity			
	1. Ratio's, Proportions and the Geometric Mean	1	<ul style="list-style-type: none"> • Textbook 6.1, 6.2 • Supplemental Textbook • Textbook 7.1 • Reviewing Integrated mathematics course II • Textbook 6.1 • NYSED math glossary and 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> –ratio, proportion, geometric mean, mean, extreme, scale drawings			
	Express the relationship of 2 quantities as a ration in simplest form.			
	Define the product of the means equals the product of the			



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	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.			
	Solve a proportion.			
	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 scale 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).			
	2. Similar Polygons	1	<ul style="list-style-type: none"> • Textbook 6.3 • Supplemental Textbook • Textbook 7.3 • Reviewing Integrated 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> –Similar polygons, scale factor, symbol (~)			
	Define similar polygons.			



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	Define correct order in naming the figures.		mathematics course II Textbook 6.2 <ul style="list-style-type: none"> • 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 	
	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.			
	Determine the perimeter of similar polygons.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
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.			
	3. Triangle Similarity by AA, SSS proportionality and SAS proportionality	1	<ul style="list-style-type: none"> • Textbook 6.4 • Supplemental Textbook • Textbook 7.4 • Reviewing Integrated mathematics course II Textbook 6.1 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – AA, similar triangles, SSS proportion, SAS proportion			
	Investigate and establish that two triangles are similar when two angles are congruent or all three sides are in proportion or two			



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	sides in proportion and included angles are equal.		<ul style="list-style-type: none"> • 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 	
	Numerical and algebraic applications only.			
G.G.44	Establish similarity of triangles, using the following theorems: AA, SAS, and SSS.			
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.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
	4. Similar Triangle Proofs	1	<ul style="list-style-type: none"> • Textbook 6.5 • Supplemental Textbook • Textbook 7.5 • Reviewing Integrated mathematics course II Textbook 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – AA Similarity			
	Prove triangles are similar by AA.			
	Prove sides of similar triangles are in proportion.			
G.G.44	Establish similarity of triangles, using the following theorems: AA, SAS, and SSS.			
G.G.45	Investigate, justify, and apply theorems about similar triangles.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			



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G.R.2	Recognize, compare, and use an array of representational forms.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams 	
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.			
	5. Proportionality Theorems	1	<ul style="list-style-type: none"> • Textbook 6.6 • Supplemental Textbook • Textbook 7.6 • Reviewing Integrated mathematics course II Textbook 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – proportion, parallel, transversal, angle bisector			
	Define, investigate and justify the triangle proportionality theorem.			
	Apply the triangle proportionality theorem to find a missing length in a triangle.			
	Apply the triangle proportionality theorems to word problems.			
	Investigate, justify and apply three parallel lines intersected by two transversals theorem.			
	Investigate, justify and apply the proportion theorem for sides formed by a ray bisecting an angle in a triangle.			
G.G.46	Investigate, justify, and apply theorems about proportional relationships among the segments of the sides of the triangle, given one or more lines parallel to one side of a triangle and			



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	intersecting the other two sides of the triangle.		Archived Sequential II Regents Exams	
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.R.4	Select appropriate representations to solve problem situations.			
G.CN.3	Model situations mathematically, using representations to draw conclusions and formulate new situations.			
G.CN.6	Recognize and apply mathematics to situations in the outside world.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	6. Pythagorean Theorem	.5	<ul style="list-style-type: none"> • Textbook 7.1 • Supplemental Textbook • Textbook 8.2 • Reviewing Integrated mathematics course II Textbook 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – Pythagorean theorem, Pythagorean triples, legs, hypotenuse			
	Define Pythagorean theorem.			
	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 triangle.			



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G.G.48	Investigate, justify, and apply the Pythagorean theorem and its converse.		<ul style="list-style-type: none"> • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams 	
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	7. Converse of Pythagorean Theorem	.5	<ul style="list-style-type: none"> • Textbook 7.1 • Supplemental Textbook • Textbook 8.2 • Reviewing Integrated mathematics course II Textbook 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – Converse of Pythagorean theorem, legs, hypotenuse			
	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			



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	or mathematical concepts.		sample tests	
G.CN.8	Develop an appreciation for the historical development of mathematics.		<ul style="list-style-type: none"> Archived Sequential II Regents Exams 	
	8. Similar Right Triangles	2	<ul style="list-style-type: none"> Textbook 7.3 Supplemental Textbook Textbook 8.1 Reviewing Integrated mathematics course II Textbook 6.3 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 	<ul style="list-style-type: none"> Class Work Homework Questions on quizzes & tests
	<i>Vocabulary</i> – altitude , leg and hypotenuse of right triangle, proportion			
	Investigate, justify and apply the Geometric Mean (Altitude) Theorem.			
	Investigate, justify and apply the Geometric Mean (leg) Theorem.			
	Determine the missing parts of 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 problems by setting up proportions of: $\frac{\textit{short}}{\textit{long}} \text{ or } \frac{\textit{short}}{\textit{hypontenuse}} \text{ or } \frac{\textit{long}}{\textit{hyponetuse}}$			
	Given a problem in word form, draw a diagram, set up the proportion and solve.			



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G.G.47	Investigate, justify, and apply theorems about mean proportionality: <ul style="list-style-type: none"> ○ the altitude to the hypotenuse of a right triangle is the mean proportional between the two segments along the hypotenuse ○ 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.			
	9. Special Right Triangles	1	<ul style="list-style-type: none"> • Textbook 7.4 • Supplemental Textbook • Textbook 8.4 • Reviewing Integrated mathematics course II • Textbook 6.3 • NYSED math glossary and 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> –30-60-90 triangle, 45-45-90 triangle			
	Develop relationship between sides of 45-45-90 triangle.			
	Develop relationship between sides of 30-60-90 triangle.			
	Apply the relationship between sides to find missing sides of triangle.			



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G.G.44	Establish similarity of triangles, using the following theorems: AA, SAS, and SSS.		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.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
	10. Sine, Cosine, & Tangent of Special Right Triangles	1		
	Develop relationship between the trigonometric ratios of 45-45-90 triangle.			
	Develop relationship between the trigonometric ratios of 30-60-90 triangle.			
	Keep the problems basic.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			



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	11. Review	1		
	12. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total Days	12		
	Unit 6 – Polygons			
	1. Angle Measures in Polygons	2	<ul style="list-style-type: none"> • Textbook 8.1 pg 507 • Supplemental Textbook pg 101 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – diagonal, interior angles, exterior angles, concave polygon, convex polygon, quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, decagon, regular polygon			
	Review polygons and their names based on the number of sides.			
	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 given either numeric or algebraic info about the other angles.			
	Investigate the sum of the exterior angles of a polygon.			



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	Determine measures in a regular polygon, both numeric and algebraic.			
	Determine an unknown exterior angle measure.			
	Investigate and justify interior and exterior angle theorems.			
	Do more difficult problems from the supplemental textbook.			
	Applications to word problems.			
	Applications of word problems that involve finding the sum, difference, product, and quotient of the sum of the interior and sum of exterior angles.			
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.			
	2. Properties of Parallelograms	1	<ul style="list-style-type: none"> • Textbook 8.2 pg. 515 • Supplemental Textbook pg 167 • NYSED math glossary and math vocabulary list • McDougal supplemental materials 	<ul style="list-style-type: none"> • Class Work • Homework • questions on quizzes & tests
	<i>Vocabulary</i> – 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.			



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	Apply properties of parallelograms find the value of the unknown variable.		<ul style="list-style-type: none"> • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	
	Apply the properties of parallelograms to congruent triangles and CPCTC proofs.			
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.			
	3. Show that a Quadrilateral is a Parallelogram Proofs	1	<ul style="list-style-type: none"> • Textbook 8.3 pg. 522 • Supplemental Textbook pg. 172 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – parallelogram			
	Define the methods to prove that a quadrilateral is a parallelogram.			
	Construct a two-column proof to prove a figure is a parallelogram (apply CPCTC and extend proof).			
	NO COORDINATE GEOMETRY PROOFS at this time.			



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G.G.38	Investigate, justify, and apply theorems about parallelograms involving their angles, sides, and diagonals.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • NYSED sample tasks 	
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. Rhombus	1	<ul style="list-style-type: none"> • Textbook 8.4 pg. 533 • Supplemental Textbook pg. 184 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – rhombus			
	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.			
	Construct two column proofs applying a rhombus to congruent triangle CPCTC proofs.			
	Construct a two column proof to prove a figure is a rhombus.			
G.G.36	Investigate, justify, and apply theorems about the sum of the			



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	measures of the interior and exterior angles of polygons.			
G.G.39	Investigate, justify, and apply theorems about special parallelograms (rectangles, rhombuses, squares) involving their angles, sides, and diagonals.			
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.			
	5. Rectangle	1	<ul style="list-style-type: none"> • Textbook 8.4 pg. 533 • Supplemental Textbook pg. 184 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – rectangle			
	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.			
	Construct two column proofs applying a rectangle to congruent triangle CPCTC proofs.			



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	Construct a two column proof to prove a figure is a rectangle.		<ul style="list-style-type: none"> • NYSED sample tasks & sample test 	
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 theorems about special parallelograms (rectangles, rhombuses, squares) involving their angles, sides, and diagonals.			
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.			
	6. Square	1	<ul style="list-style-type: none"> • Textbook 8.4 pg. 533 • Supplemental Textbook pg. 184 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – square			
	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.			



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	Construct two column proofs applying a square to congruent triangle CPCTC proofs.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	
	Construct a two column proof to prove a figure is a square.			
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 theorems about special parallelograms (rectangles, rhombuses, squares) involving their angles, sides, and diagonals.			
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.			
	7. Trapezoids and Mid-segments of a Trapezoid	2	<ul style="list-style-type: none"> • Textbook 8.5 pg. 542 • Supplemental Textbook pg. 190 • NYSED math glossary and math vocabulary list • McDougal supplemental 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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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	Define and identify an isosceles trapezoid and its parts.		materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	
	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-textbook or either bases in either numeric or algebraic problems.			
	Apply trapezoids and isosceles trapezoids to 2-column proofs.			
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.			
	8. Mixed Review	1	• Textbook 8.6 pgs. 552, 554 #3	• Class Work



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	<i>Vocabulary</i> – review the vocabulary from previous textbooks		– 11	<ul style="list-style-type: none"> • Supplemental Textbook pgs. 184, 189 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks 	<ul style="list-style-type: none"> • Homework • Questions on quizzes & tests
	Identify the different special quadrilaterals given specific facts.				
	Distinguish the difference between special quadrilaterals.				
	Apply two-column proofs involving special quadrilaterals.				
	Do more difficult proofs.				
	NO COORDINATE GEOMETRY PROOFS at this time.				
G.G.39	Investigate, justify, and apply theorems about special parallelograms (rectangles, rhombuses, squares) involving their angles, sides, and diagonals.				
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 other representations when sharing an idea in verbal and written form.				
	9. Review	1			



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	10. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total Days	12		
	Cyclic Review for Quarterly Exam	3		<ul style="list-style-type: none"> • Quarterly Exam
QUARTER 3				
	Unit 7 – Transformations			
	1. Intro to Transformations	1	<ul style="list-style-type: none"> • Textbook 14.1 • Textbook 7.6 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – transformation, image, pre-image, mapping, one to one mapping, orientation, opposite, direct, indirect, isometry, reflection, rotation, translation, glide reflection, dilations Define a transformation as a 1 to 1 mapping of points on the coordinate plane (pre-image) onto points on the coordinate plane (image).			
	Given rules for mappings identify as a transformation (ie: $A(x, y) = (2x, 2y)$ is a 1 to 1) (ie: $B(x, y) = (x^2, y^2)$ is not 1 to 1).			
	Identify the 5 types of transformations and investigate which are direct or opposite outcomes, which are direct or indirect isometries and which are not isometries.			
	Given a diagram with a figure and its image, on and off graph paper, identify the transformation.			



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	Define and investigate the properties of reflections, rotation, translations, glide reflections and dilations/			
	Define rotations, translations and glide reflections as composites of reflections.			
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	1	<ul style="list-style-type: none"> • Textbook 9.1, 9.3 • Textbook 14.2, 14.3 • Textbook 7.6 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – reflection, line reflection, translation			
	Define line reflection and its proper notation.			
	Define and apply line reflections in the lines $x = 0$, $y = 0$, $y = x$, $x = a$, $y = b$, and $y = -x$.			
	Define translations and its proper notation.			
	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.			



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	Find the image of a geometric figure under a line reflection or translation (ie: given triangle ABC find the coordinates of triangle A'B'C under $T_{3,1}$).			
	Find the image of a point under a composition of line reflections, translations and combinations of them.			
	Justify line reflections and translations are indirect and direct isometries respectively.			
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.			



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G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
	3. Rotations	1	<ul style="list-style-type: none"> • Textbook 9.4 • Textbook 14.4 • Textbook 7.6 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – rotation, center of rotation, angle of rotation, clockwise rotation, counterclockwise rotation			
	Define and investigate rotations.			
	Define and identify symbols for rotations.			
	Define and apply R_{90} , R_{-90} , R_{180} , and R_{270} to points.			
	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 90° and 180° , reflections over the lines $x = 0$, $y = 0$, and $y = x$, and			



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	dilations centered at the origin.			
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.			
	4. Dilations and Glide Reflections	1	<ul style="list-style-type: none"> • Textbook 9.5 & 9.7 • Textbook 14.3 & 14.4 • Textbook 7.6 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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 three line reflections). (do not use textbook – incorrect notation pg 608 example 1)			
	Define the image of a point or figure after a glide reflection.			
	Define a glide reflection as the composition of three line reflections.			
	Justify the properties of dilations and glide reflections that remain invariant.			



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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.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 90° and 180° , 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			



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	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.			
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.			
	5. Symmetries	1	<ul style="list-style-type: none"> • Textbook 9.6 • Textbook 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 & Sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – line symmetry, rotational symmetry, point symmetry			
	Define and identify line symmetry in shapes, figures and pictures.			
	Define and identify rotational symmetry in shapes, figures and pictures.			
	Define and identify point symmetry in shapes, figures and pictures.			
	Given a figure identify its symmetries.			



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	Given a polygon 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.			
	6. Compositions and Applications	2	<ul style="list-style-type: none"> • Need to supplement • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – composition of functions, compositional notation			
	Define compositions and their notations.			
	Given a transformation written in functional notation identify the type of transformation.			



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	Apply compositions to move points and figures.		<ul style="list-style-type: none"> • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	
	Define translations, rotations and glide reflections in terms of compositions.			
	Apply compositions to translations, rotations and glide reflections.			
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.RP.1	Recognize that mathematical ideas can be supported by a variety of strategies.			
G.CM.4	Explain relationships among different representations of a			



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	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.			
	7. Inverse Transformations	1	<ul style="list-style-type: none"> • Textbook 14.7 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	
	<i>Vocabulary</i> – inverse, identity			
	Define and identify the inverse of a transformation.			
	Define and identify the identity of a transformation.			
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).			



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G.G.60	Identify specific similarities by observing orientation, numbers of invariant points, and/or parallelism.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
	8. Review	1		
	9. Test	1		
	Total	10	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Unit 8 - Circles			
	1. Introduction to Circles	1	<ul style="list-style-type: none"> • Textbook pg. 651-654 10.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – circle, radius, chord, diameter, secant, tangent, point of tangency, common tangent, central angle, minor arc, major arc, semicircle, measure of minor and major arc, congruent circles, congruent arc			
	Define and identify parts of a circle – arc, minor arc, major arc, semi circle (stress difference in notation from major and minor arcs).			
	Define and identify radius, chord, diameter, secant, tangent.			



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	Differentiate between segment, ray, and line notation.			
	Define and identify point of tangency, common tangent, central angle, semicircle, congruent circles, and congruent arc.			
	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			



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	terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	2. Central and Inscribed Angles	1	<ul style="list-style-type: none"> • Textbook pg. 659, 671-672 - 10.2 10.4 • 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 III Regents Exams 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – central angle, inscribed angle, intercepted arc			
	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.			



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G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
G.R.5	Investigate relationships between different representations and their impact on a given problem.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	3. Angles Formed by Chords, Secants, and Tangents	2	<ul style="list-style-type: none"> • Textbook 10.1, 10.3, 10.5 • NYSED math glossary and math • vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – chord, secant, tangent, intercepted arc			
	Calculate the measure of angle formed by two chords that intercept inside the circle.			
	Calculate the measure of angle formed by two chords that intercept on the circle.			
	Find measure of angle and intercepted arcs formed by a tangent and chord that intercept on the circle.			
	Find measure of angle and intercepted arcs formed by a tangent and radius or diameter.			



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	Find measure of angle and intercepted arcs formed by tangent and secant that intersect outside the circle.		<ul style="list-style-type: none"> Archived Sequential III Regents Exam 	
	Find measure of angle and intercepted arcs formed by tangent and secant that intersect on the circle.			
	Find the measure of angle and intercepted arcs formed by two tangents that intersect outside the circle.			
	Find the measure of angle and intercepted arcs formed by two tangents that intersect on the circle.			
	Find measure of 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.			
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. Arcs and Angles in Complex Circles	1	<ul style="list-style-type: none"> Supplement from sequential III 	<ul style="list-style-type: none"> Class Work



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	<i>Vocabulary</i> – central angle, inscribed angle, intercepted arc		Regents Exams (ie. Jan 04 #36)	<ul style="list-style-type: none"> • Homework
	Given a circle with multiple angles formed, identify central angle, inscribed angle, angle formed by two chords that intersect inside the circle, angles formed by secants and tangents, angles formed by two tangents that intersect outside the circle, angles formed by tangent and secant, angle formed by tangent and radius or diameter.		<ul style="list-style-type: none"> • NYSED math glossary and math • vocabulary list • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Questions on quizzes & tests
	Find the measure of arcs and angles in a circle applying a mix of circle and angle formulas.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle.			
G.R.4	Select appropriate representations to solve problem situations.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
G.CM.9	Formulate mathematical questions that elicit, extend, or challenge strategies, solutions, and/or conjectures of others.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	5. Segments that Intersect Circles	2	<ul style="list-style-type: none"> • Textbook pg. 689 10.6 • NYSED math glossary and 	<ul style="list-style-type: none"> • Class Work • Homework
	<i>Vocabulary</i> – segment, segment of a chord, secant segment,			



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	external segment		math	<ul style="list-style-type: none"> • Questions on quizzes & tests
	Given two chords that intercept inside a circle, find the measure of a segment.		<ul style="list-style-type: none"> • vocabulary list • McDougal supplemental materials 	
	Given two chords that intercept inside a circle, find the measure of the intercepted arcs.		<ul style="list-style-type: none"> • Classzone.com • regentsprep.org 	
	Given two secants that intercept outside the circle, find the measure of each segment.		<ul style="list-style-type: none"> • jmap.org • mathbits.org 	
	Given two secants that intercept outside the circle, find the measure of the arcs formed.		<ul style="list-style-type: none"> • NYSED sample tasks & sample test 	
	Given a secant and tangent that intercept outside the circle, find the measure of each segment.		<ul style="list-style-type: none"> • Archived Sequential III Regents Exam 	
	Given a secant and tangent that intercept outside the circle, find the measure of each arc.			
	Given two tangents that intercept outside the circle, find the measures of each segment.			
	Given two tangents that intercept outside the circle, find the measures of each arc.			
	Recognize relationship between congruent chords and their arcs on a circle.			
G.G.50	Investigate, justify, and apply theorems about tangent lines to a			



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	circle.			
G.G.53	Investigate, justify, and apply theorems regarding segments intersected by a circle.			
G.G.49	Investigate, justify, and apply theorems regarding chords of a circle.			
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.			
	6. Chord Lengths	1	<ul style="list-style-type: none"> • Textbook pg. 664 10.3 • 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 III 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – arc measure, congruent chords, congruent arcs			
	Justify and apply that chords equidistant for the center of a circle are congruent.			
	Given the length of a radius and the distance from the center of a circle, find the length of a chord.			
	Given the length of the radius and the length of a chord, find the distance from the center of the circle.			
	Given the length of chord and the distance from the center of the circle, find the length of the radius.			
	Identify that if one chord is a perpendicular bisector of another			



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	chord, then the first chord is the diameter of the circle.		Regents Exam	
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.			
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.			
	7. Inscribed and Circumscribed Polygons	1	<ul style="list-style-type: none"> • Textbook 10.4 • NYSED math glossary and math • vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – inscribed polygon, circumscribed circle			
	Calculate the measures of inscribed angles formed by a polygon inscribed in a circle.			
	Calculate the measures of arcs formed by a polygon inscribed in a circle.			
G.G.36	Investigate, justify, and apply theorems about the sum of the measures of the interior and exterior angles of polygons.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle.			



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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.			
	8. Proofs with Circles	2	<ul style="list-style-type: none"> • regentsprep.org • jmap.org • mathbits.org 	
	<i>Vocabulary</i> – congruent chords, congruent arcs, inscribed angles, circumscribed, inscribed			
	Prove triangles in circles are congruent.			
	CPCTCP proofs in circles.			
	9. Review	1	<ul style="list-style-type: none"> • Textbook pg. 914, 922, 938 	
	10. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total	13		
	Unit 9 – Solids			
	1. Area of Regular Polygons	1	<ul style="list-style-type: none"> • Textbook 11.6 pg 762 • Supplemental Textbook pg 440 • NYSED math glossary and 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – polygon, regular polygon, apothem			
	Define the area of a regular polygon using apothem.			



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	Determine the area of a regular polygon.		<ul style="list-style-type: none"> math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	
	Determine the perimeter of a regular polygon.			
	Find the area of the shaded region.			
	Determine the relationship between the areas of similar figures.			
	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. <i>Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, quarter-circles, and regular polygons (perimeter only).</i>			
	2. Solids	1	<ul style="list-style-type: none"> • Textbook 12.1 pg. 794 • Supplemental Textbook pg 475 • NYSED math glossary and math vocabulary list • McDougal supplemental materials 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – Polyhedron, face, edge, vertex, base, regular polyhedron, convex polyhedron, prism, pyramid			
	Identify and name the parts of a polyhedral.			
	Given a polyhedron, name it and find the number of faces, edges and vertices.			



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	Define n-hedra and the prefix for 4, 6, 8 and 12.		<ul style="list-style-type: none"> • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	
	Define and apply Euler's Theorem to find the number of faces, edges or vertices.			
	Apply the properties of regular pyramids.			
	Applications.			
G.G.13	Apply the properties of a regular pyramid, including: <ul style="list-style-type: none"> o lateral edges are congruent o lateral faces are congruent o isosceles triangles. 			
	3. Lateral Area & Surface Area	1	<ul style="list-style-type: none"> • Textbook 12.2 pg. 803 • Textbook 12.3 • Supplemental Textbook pg. 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – prism, lateral faces, lateral edges, surface area, lateral area, right prism, oblique prism, cylinder, right cylinder, net			
	Given a prism, identify its bases, lateral faces and lateral edges.			
	Investigate the net of a prism and a right prism.			
	Know and apply that the lateral edges of a prism are congruent and parallel.			
	Determine the surface area of a right prism by adding the areas of the sides.			
	Determine the surface area of a right cylinder by adding the			



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	areas of the sides.		sample test	
	Distinguish the difference between surface area and lateral area.			
	Determine the lateral area of a right prism.			
	Determine the lateral area of a right cylinder and right circular cone.			
	Given lateral area find the missing measure of a right prism or cylinder.			
	Applications.			
G.G.10	Know and apply that the lateral edges of a prism are congruent and parallel.			
G.PS.1	Use a variety of problem solving strategies to understand new mathematical content.			
G.G.14	Apply the properties of a cylinder, including: <ul style="list-style-type: none"> ○ bases are congruent. ○ volume equals the product of the area of the base and the altitude. ○ lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base. 			
	4. Volume of Prisms and Cylinders (given the formula for the volume of a cylinder on the	1	<ul style="list-style-type: none"> • Textbook 12.4 pg. 819 • Supplemental Textbook pg 	<ul style="list-style-type: none"> • Class Work • Homework



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	regents exam)		
	<i>Vocabulary</i> – 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.		
	Determine the relationship between the volumes of similar solids.		
	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: <ul style="list-style-type: none"> ○ bases are congruent. ○ volume equals the product of the area of the base and the altitude. ○ lateral area of a right circular cylinder equals the 		
		475. & pg. 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test	• Questions on quizzes & tests



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	product of an altitude and the circumference of the base.			
	5. Volumes of Pyramids and Cones (given formulas on regents exam)	1	<ul style="list-style-type: none"> • Textbook 12.5 pg. 829 • Supplemental Textbook pgs. 482 & 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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.			
	Explain the difference between a triangular prism and a triangular pyramid.			
	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: <ul style="list-style-type: none"> ○ volume of a pyramid equals one-third the product of the area of the base and the altitude. 			
G.G.14	Apply the properties of a cylinder, including:			



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	<ul style="list-style-type: none"> ○ volume equals the product of the area of the base and the altitude 			
G.G.15	Apply the properties of a right circular cone, including: <ul style="list-style-type: none"> ○ 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, 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			



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	their impact on a given problem.			
	6. Surface Area & Volume of Spheres (given formulas on regents exam)	1	<ul style="list-style-type: none"> • Textbook 12.6 pg. 838 • Supplemental Textbook pg. 497 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – sphere, center, radius, chord, diameter, great circle, hemispheres			
	Define and apply the theorem for the surface area of a sphere.			
	Use the definition of a great circle to find the circumference of a sphere.			
	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: <ul style="list-style-type: none"> ○ bases are congruent. ○ volume equals the product of the area of the base and the altitude. ○ lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base. 			



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G.G.15	Apply the properties of a right circular cone, including: <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ surface area is $4\pi r^2$ ○ volume is $\frac{4}{3}\pi r^3$ 			
	7. Review	1		
	8. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total	8		
	Cyclic Review for Quarterly Exam	3		<ul style="list-style-type: none"> • Quarterly Exam
QUARTER 4				
	Unit 10 – Locus and Constructions			
	1. Basic locus	1	<ul style="list-style-type: none"> • Textbook A22-23 • Supplemental textbook 401-422 • Reviewing integrated math II pgs. 178-179 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines, collinear points.			
	Define locus and loci.			



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	Define the seven basic loci at a distance from: a point, a line, two points, two parallel, lines two intersecting lines, a point and a line, three non-collinear points.		<ul style="list-style-type: none"> • NYSED math glossary and math vocabulary list • Cabri • Cabri Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks • NYSED sample test 	
	Apply the seven basic loci to simple problems.			
	Apply the seven basic loci and draw diagrams.			
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
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.			
G.R.2	Recognize, compare, and use an array of representational forms.			
	2. Compound loci	2	<ul style="list-style-type: none"> • Textbook A22-23 • Supplemental textbook 401-422 • Reviewing Integrated Math II pgs. 180- 184 • Cabri • Cabri, Jr. • NYSED math glossary and 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines, collinear points			
	Apply the seven loci to compound loci problems.			
	Identify the compound loci by drawing a diagram that contains the two fixed figures and the then add the diagrams of the two loci as dotted lines.			



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G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.		<ul style="list-style-type: none"> math vocabulary list • Archived Sequential 2 Regent exams • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks • mathbits.org 	
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.			
G.R.2	Recognize, compare, and use an array of representational form.			
	3. Constructions	2	<ul style="list-style-type: none"> • Textbook see index • Supplemental Text 375-418, 701 • Cabri • Cabri, Jr. • NYSED math glossary and math • vocabulary list • mathbits.org • Classzone.com • regentsprep.org 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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.			



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	Justify the construction of the perpendicular bisector.		<ul style="list-style-type: none"> • jmap.org • NYSED sample tasks • NYSED sample test 	
	Construct a line parallel to a given line from a given point.			
	Construct a line perpendicular to a given 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.G.21	Investigate and apply the concurrence of medians, altitudes, and perpendicular bisectors of triangles.			
G.CN.6	Recognize and apply mathematics to situations in the outside			



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	world.			
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 form.			
	4. Applications of loci and constructions	2	<ul style="list-style-type: none"> • Textbook pg. 689 10.6 • Supplemental text- p. 208 • Worksheets • Math folder • NYSED math glossary and math • vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> - locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines, collinear points, copy, line, angle, bisect, bisector, perpendicular bisector, parallel lines, perpendicular lines, construct			
	Construct the loci using the constructions.			
	Investigate the concurrence of triangle medians by constructing the medians.			
	Investigate the concurrence of triangle altitudes by constructing the altitudes.			
	Investigate the concurrence of triangle angle bisectors by constructing the angle bisectors.			
	Investigate the concurrence of triangle perpendicular bisectors by constructing the perpendicular bisectors.			
8.G.0	Construct the following using a straightedge and compass:			



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	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.G.21	Investigate and apply the concurrence of medians, altitudes, and perpendicular bisectors of triangles.			
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 form.			
	5. Review	1		
	6. Test	1	• Test Generator	• Chapter Test
	Total	9		
	Unit 11 – Linear & Quadratic Graphs			
	1. Slopes of Linear Functions	1	<ul style="list-style-type: none"> • Textbook 3.4 pg. 171 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – coordinate plane, x & y axis, origin, abscissa, ordinate, plotting points, standard form of a line $y = mx + b$, slope, y-intercept, parallel, perpendicular, slope, slope formula, rise, run			
	Review the coordinate plane.			
	Define and apply the x & y axis, ordinate and abscissa.			
	Review the standard form of a line ($y = mx + b$) and convert standard form equation to slope-intercept form equation.			
	Find the slope given the equation of a line.			
	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			



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	formula.			
	Find the slope of a line given a point and the y-intercept.			
	Find the slope of a line given the equation in any form.			
	Define and apply the slopes of parallel lines postulate.			
	Define and apply the slopes of perpendicular lines postulate.			
A.A.4	Translate verbal sentences into mathematical equations or inequalities.			
A.A.21	Determine whether a given value is a solution to a given linear equation in one variable or linear inequality in one variable.			
A.A.33	Determine the slope of a line, given the coordinates of two points on the line.			
A.A.37	Determine the slope of a line, given its equation in any form.			
A.A.39	Determine whether a given point is on a line, given the equation of the line.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.PS.3	Use multiple representations to represent and explain problem situations (e.g., spatial, geometric, verbal, numeric, algebraic, and graphical representations).			



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G.PS.10	Evaluate the relative efficiency of different representations and solution methods of a problem.			
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.12	Draw conclusions about mathematical ideas through decoding, comprehension, and interpretation of mathematical visuals, symbols, and technical writing.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
G.CN.3	Model situations mathematically, using representations to draw conclusions and formulate new situations.			
G.CN.5	Understand how quantitative models connect to various physical models and representations.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	2. Equation of Lines	1	• Textbook 3.5 pg. 180	• Class Work



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	<i>Vocabulary</i> – slope-intercept form, standard form, x intercept, y intercept			
	Determine the equation of a line given a graph of the line.			
	Determine the equation of a line given the slope and a point.			
	Determine the equation of a line given the slope and the y-intercept.			
	Determine the equation of a line given two points.			
A.A.34	Write the equation of a line, given its slope and the coordinates of a point on the line.			
A.A.35	Write the equation of a line, given the coordinates of two points on the line.			
A.A.36	Write the equation of a line parallel to the x- or y-axis.			
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.RP.4	Provide correct mathematical arguments in response to other students' conjectures, reasoning, and arguments.			
G.CM.2	Use mathematical representations to communicate with			

- NYSED math glossary and math vocabulary list
- McDougal supplemental materials
- Classzone.com
- regentsprep.org
- jmap.org
- mathbits.org
- NYSED sample tasks & sample tests

- Homework
- Questions on quizzes & tests



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	appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, and diagrams.			
G.CM.6	Support or reject arguments or questions raised by others about the correctness of mathematical work.			
	3. Equations of Parallel & Perpendicular Lines	1	<ul style="list-style-type: none"> • Textbook 3.5 pg. 180 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – slope-intercept form, standard form, x intercept, y intercept, parallel, perpendicular			
	Given a point and an equation of a line, write the equation of a parallel line.			
	Given a point and an equation of a line, write the equation of a perpendicular line.			
A.A.34	Write the equation of a line, given its slope and the coordinates of a point on the line.			
A.A.35	Write the equation of a line, given the coordinates of two points on the line.			
A.A.38	Determine if two lines are parallel, given their equations in any form.			
G.G.62	Find the slope of a perpendicular line, given the equation of a line.			
G.G.63	Determine whether two lines are parallel, perpendicular, or			



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	neither, given their equations.			
G.G.64	Find the equation of a line, given a point on the line and the equation of a line perpendicular to the given line.			
G.G.65	Find the equation of a line, given a point on the line and the equation of a line parallel to the desired line.			
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.RP.4	Provide correct mathematical arguments in response to other students' conjectures, reasoning, and arguments.			
G.CM.2	Use mathematical representations to communicate with appropriate accuracy, including numerical tables, formulas, functions, equations, charts, graphs, and diagrams.			
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.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	4. Equation of a perpendicular bisector	1	• SUPPLEMENT	• Class Work



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	<i>Vocabulary</i> – slope-intercept form, standard form, x intercept, slope, perpendicular, mid-point, end points, perpendicular slope, bisector, point-slope form		(not in textbook)	<ul style="list-style-type: none"> • Homework • Questions on quizzes & tests
	Given two endpoints of a line segment: <ol style="list-style-type: none"> Determine the midpoint of that line segment Determine the slope of that line segment Determine the slope of the line segment that would be perpendicular to it 		<ul style="list-style-type: none"> • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	
	Using the midpoint and the perpendicular slope, determine the equation of the line.			
	Given a line and given two points on that line determine the equation of the perpendicular bisector.			
G.G.62	Find the slope of a perpendicular line, given the equation of a line.			
G.G.63	Determine whether two lines are parallel, perpendicular, or neither, given their equations.			
G.G.68	Find the equation of a line that is the perpendicular bisector of a line segment, given the endpoints of the line segment.			
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			



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	of strategies (numeric, graphic, algebraic).			
G.RP.1	Recognize that mathematical ideas can be supported by a variety of strategies.			
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.			
	5. Equations of Circles and their graphs	2	<ul style="list-style-type: none"> • Textbook 10.7 pg. 699 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – standard equation of a circle, radius, diameter, center			
	Define circle.			
	Define the standard form equation of a circle and its parts.			
	Determine the equation of a circle given its graph.			
	Determine the equation of a circle given its center and radius.			
	Determine the equation of a circle given its endpoints of the diameter.			
	Given the equation of a circle find its center and radius (in			



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	standard form only).			
	Given the equation of a circle identify its graph.			
	Given the graph of a circle identify its equation.			
	Given the graph of a circle, find its center and radius.			
	Graph a circle given its equation in standard form.			
	Graph a circle given its center and radius.			
G.G.71	Write the equation of a circle, given its center and radius or given the endpoints of a diameter.			
G.G.72	Write the equation of a circle, given its graph Note: The center is an ordered pair of integers and the radius is an integer.			
G.G.73	Find the center and radius of a circle, given the equation of the circle in center-radius form.			
G.G.74	Graph circles of the form $(x - h)^2 + (y - k)^2 = r^2$			
G.RP.4	Provide correct mathematical arguments in response to other students' conjectures, reasoning, and arguments.			
G.CM.6	Support or reject arguments or questions raised by others about the correctness of mathematical work.			



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	6. Review graphing lines and parabolas	1	<ul style="list-style-type: none"> • SUPPLEMENT pg. 882 in text • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – standard equation of a line, standard equation of a parabola, vertex, axis of symmetry			
	Define parabola.			
	Review graphing lines using slope intercept method.			
	Review graphing lines using table in graphing calculator.			
	Review graphing a line in standard form using the table method.			
	Review graphing a parabola using the table method. (If using calculator students must copy table from calculator)			
A.A.41	Determine the vertex and axis of symmetry of a parabola, given its equation.			
A.G.10	Determine the vertex and axis of symmetry of a parabola, given its graph.			
G.R.8	Use mathematics to show and understand mathematical phenomena (e.g., compare the graphs of the functions represented by the equations $y = x^2$ and $y = -x^2$).			
	7. Systems of Linear-Quadratics	1	<ul style="list-style-type: none"> • SUPPLEMENT • NYSED math glossary and math vocabulary list 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – standard equation of a line, standard equation of a parabola, vertex			



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	Graph an oblique (slant) line and parabola and find intersection(s).		<ul style="list-style-type: none"> • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests 	
	Graph the vertical or horizontal line and parabola to find the intersection(s).			
	Utilize calculator to graph line and parabola and find intersection(s).			
	Check and label the solution set in both equations.			
	Graph an oblique (slant) line and circle and find intersection(s).			
	Graph the vertical or horizontal line and circle to find the intersection(s).			
	Check and label the solution set in both equations.			
	Problem solving applications.			
A.G.9	Solve systems of linear and quadratic equations graphically <i>(Note: Only use systems of linear and quadratic equations that lead to solutions whose coordinates are integers).</i>			
G.G.70	Solve systems of equations involving one linear equation and one quadratic equation graphically.			
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.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.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.			
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.			
	8. Review	1		
	9. Test	1		
	Total	10	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Unit 12 – Coordinate Geometry Proofs			
	1. Midpoint, Distance and Slope Formulas	1	<ul style="list-style-type: none"> • Supplemental Textbook 13.1 & 13.5 	<ul style="list-style-type: none"> • Class Work • Homework



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	<i>Vocabulary</i> – midpoint, distance slope, line segment		<ul style="list-style-type: none"> • Reviewing Integrated mathematics course II Textbook 7.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Graphing calculator • Cabri • Cabri, Jr. 	<ul style="list-style-type: none"> • Questions on quizzes & tests
	Given slope formula – find the slope of a line segment.			
	Given midpoint formula – find the midpoint of a line segment.			
	Given distance formula – find the length of a line segment.			
	Given coordinates of a figure apply the midpoint, distance, or slope formula (e.g., given coordinates of a parallelogram find lengths of all sides and find midpoint 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.			
	2. Coordinate Geometry Triangle Proofs	1	<ul style="list-style-type: none"> • Supplemental Textbook 13.8 & 13.9 • Reviewing Integrated mathematics course II Textbook 7.2 • NYSED math glossary and math vocabulary list 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> –isosceles, equilateral, scalene, right triangles, midpoint formula, distance formula			
	Review properties of isosceles, equilateral, scalene, and right triangles that can be proven using midpoint or distance formula.			
	Investigate and devise coordinate geometry plans for proving			



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	triangles isosceles, equilateral, scalene, right triangle.			
	Review the parts of a coordinate geometry proof that include: definition of figure to be proved, plan to meet the definition, formula(s) to be used, diagram (if needed), work, and conclusion statement.			
	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, midpoint, and slope formulas.			
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.			
			<ul style="list-style-type: none"> • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Graphing calculator • Cabri • Cabri, Jr. 	



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G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
	3. Coordinate Geometry Quadrilateral Proofs	4	<ul style="list-style-type: none"> • Supplemental Textbook 13.8 & 13.9 • Reviewing Integrated mathematics course II Textbook 7.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Graphing calculator • Cabri • Cabri, Jr. 	<ul style="list-style-type: none"> • Class Work • Homework • Questions on quizzes & tests
	<i>Vocabulary</i> – 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, midpoint or slope formula.			
	Investigate and devise coordinate geometry plans to prove a quadrilateral is a parallelogram, rhombus, rectangle, square, trapezoid, or isosceles trapezoid.			
	Review the parts of a coordinate geometry proof that include: definition of figure to be proved, plan to meet the definition, formula(s) to be used, diagram (if needed), work, and conclusion statement.			
	Given numeric coordinates of a quadrilateral apply the plan to a coordinate geometry proof.			
	Given algebraic coordinates of a quadrilateral apply the plan to a coordinate geometry proof.			
	Apply coordinate geometry proofs to transformations.			



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	Prove type of quadrilateral using slope, distance, and midpoint 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.			
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,			



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	coherent, and clear design (outline) and explanation for the steps used in solving a problem.			
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.			
	4. Review	1		
	5. Test	1	<ul style="list-style-type: none"> • Test Generator 	<ul style="list-style-type: none"> • Chapter Test • Questions on Quarterly Assessment
	Total	8		
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