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Integrated Geometry 308

STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
QUARTER 1				
	Unit 1 – Review MA 208 Topics – Congruent Triangles & Special Segments in Triangles			
	Review materials from 208.	5	• MA 208 Curriculum • classzone.com • regentsprep.org • jmap.org • mathbits.org • NSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Unit 2 – Similarity			
	1. Ratio's, Proportions and the Geometric Mean	1	• Textbook 6.1 • Supplemental Textbook 7.1 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – ratio, proportion, geometric mean, mean, and extreme			
	Express the relationship of 2 quantities as a ratio in simplest form.			
	Define the product of the means equals the product of the extremes.			
	Given information construct a proportion that may be used to			

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	solve the problem (do not use the phrase cross multiply) (you are finding the common denominator and multiplying both sides by that denominator).		• regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	
	Given information construct a proportion that may be used to solve the problem.			
	Apply the product of the means equals the product of the extremes with numeric and algebraic problems.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
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. Solving Proportions	2	• Textbook 6.2 • Supplemental Textbook 7.1 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – scale, scale drawings			
	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.			

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G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).		• Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	3. Similar Polygons	2	• Textbook 6.3 • Supplemental Textbook 7.3 • Reviewing Integrated Mathematics Course II, 6.2 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – similar polygons, scale factor, symbol (~).			
	Define similar polygons.			
	Define correct order in naming the figures.			
	Find and identify the equal angles and the sides that are in proportion given two similar polygons.			
	Determine the scale factor of similar polygons.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.CM.10	Use correct mathematical language in developing mathematical			

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	questions that elicit, extend, or challenge other students' conjectures.		• Archived Sequential II Regents Exams	
G.CN.5	Understand how quantitative models connect to various physical models and representations.			
G.R.2	Recognize, compare, and use an array of representational forms.			
	4. Triangle Similarity by AA, SSS Proportionality and SAS Proportionality	1	• Textbook 6.4 • Supplemental Textbook 7.4 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 sides in proportion and included angles are equal.			
	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 an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.R.2	Recognize, compare, and use an array of representational forms.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
	5. Similar Triangle Proofs	1	• Textbook 6.5 • Supplemental Textbook 7.5 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.R.2	Recognize, compare, and use an array of representational forms.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
G.CM.8	Reflect on strategies of others in relation to one's own strategy.			
	6. Proportionality Theorems	2	• Textbook 6.6	• Class Work

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	Vocabulary – proportion, parallel, transversal, angle bisector		• Supplemental Textbook 7.6 • Reviewing Integrated Mathematics Course II, 6.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Homework • Questions on quizzes & tests
	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 intersecting the other two sides of the triangle.			
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			

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	world.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	7. Pythagorean Theorem	1	• Textbook 7.1 • Supplemental Textbook 8.2 • Reviewing Integrated Mathematics Course II, 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 a triangle.			
G.G.48	Investigate, justify, and apply the Pythagorean theorem and its converse.			
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.			

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	8. Converse	1	• Textbook 7.1 • Supplemental Textbook 8.2 • Reviewing Integrated Mathematics Course II, 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – Converse of Pythagorean theorem, legs, hypotenuse			
	Given the length of the sides of a triangle determine whether or not the triangle is a right triangle.			
G.G.48	Investigate, justify, and apply the Pythagorean theorem and its converse.			
G.PS.5	Choose an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
G.CN.2	Understand the corresponding procedures for similar problems or mathematical concepts.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	9. Similar Right Triangles	3	• Textbook 7.3 • Supplemental Textbook 8.1 • Reviewing Integrated Mathematics Course II, 6.3	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – altitude, leg and hypotenuse of right triangle, proportion			
	Investigate, justify and apply the Geometric Mean (altitude)			

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	Theorem.		• 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	
	Investigate, justify and apply the Geometric Mean (leg) Theorem.			
	Determine the missing parts of a right triangle with altitude to hypotenuse.			
	Determine the short leg, long leg, and hypotenuse of all 3 triangles.			
	Solve altitude to hypotenuse of a right triangle problem by setting up proportions of: $\frac{short}{long}$ or $\frac{short}{hypotenuse}$ or $\frac{long}{hypotenuse}$			
	Given a problem in word form, draw a diagram, set up the proportion and solve.			
G.G.47	Investigate, justify, and apply theorems about mean proportionality: • the altitude to the hypotenuse of a right triangle is the mean proportional between the two segments along the hypotenuse. • the altitude to the hypotenuse of a right triangle divides the hypotenuse so that either leg of the right			

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	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.			
	10. Special Right Triangles	2	• Textbook 7.4 • Supplemental Textbook 8.4 • Reviewing Integrated Mathematics Course II, 6.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			
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.			

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			• Archived Sequential II Regents Exams	
	11. Review	1		
	12. Test	1	Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**23**		
	Unit 3 – Polygons			
	1. Angle Measures in Polygons	3	• 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 • Archived Sequential II	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – diagonal, interior angles, exterior angles, concave polygon, convex polygon, quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, decagon			
	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 angles of a polygon determine the number of sides.			
	Determine the unknown interior angle measure given either numeric or algebraic info about the other angles.			

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	Investigate the sum of the exterior angles of a polygon.		Regents Exams	
	Determine measures in a regular polygon, both numeric and algebraic.			
	Determine an unknown exterior angle measure.			
	Investigate and justify interior and exterior angle theorems.			
	Applications to word problems.			
	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	2	• Textbook 8.2 • Supplemental Textbook, pg. 167 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallelogram			
	Define and investigate the properties of a parallelogram.			
	Apply the properties of a parallelogram to numeric and algebraic problems to find lengths of sides and measures of angles.			

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	Apply properties of parallelograms to find the value of the unknown variable.		• 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 Proof	2	• Textbook 8.3, pg. 522 • Supplemental Textbook, pg. 172 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			
G.G.38	Investigate, justify, and apply theorems about parallelograms involving their angles, sides, and diagonals.			

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G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.		• regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	
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	• 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 & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 measures of the interior and exterior angles of polygons.			

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G.G.39	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
	5. Rectangle	1	• 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 &	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			
	Construct a two-column proof to prove a figure is a rectangle.			

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G.G.36	Investigate, justify, and apply theorems about the sum of the measures of the interior and exterior angles of polygons.		sample tests	
G.G.39	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
	6. Square	1	• 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	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			
	Construct two-column proofs applying a square to congruent			

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	triangle CPCTC proofs.		• mathbits.org • NYSED sample tasks & sample test	
	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 the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.PS.4	Construct various types of reasoning, arguments, justifications and methods of proof for problems.			
	7. Trapezoids and Mid-Segments of a Trapezoid	3	• Textbook 8.5, pg. 542 • Supplemental Textbook pg. 190 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – trapezoid, bases, base angles, legs, isosceles trapezoid, mid-segment of a trapezoid			
	Define and identify the parts of a trapezoid, including the bases, base angles and legs.			
	Define and identify an isosceles trapezoid and its parts.			

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	Apply properties of isosceles trapezoids and trapezoids to find measures of angles and lengths of line segments in both numeric and algebraic problems.		• Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample test	
	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	3	• Textbook 8.6, pg. 552, pg. 554 #3-11	• Class Work • Homework
	Vocabulary – review the vocabulary from previous textbooks.			

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	Identify the different special quadrilaterals given specific facts.		• Supplemental Textbook pgs. 184, 189 • 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
	Distinguish the difference between special quadrilaterals.			
	Apply two-column proofs involving special quadrilaterals.			
	NO COORDINATE GEOMETRY PROOFS at this time.			
G.G.39	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.G.41	Justify that some quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids.			
G.G.69	Investigate, justify, and apply the properties of triangles and quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
	9. Review	1		
	10. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment

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	Cyclic Review for Quarterly Exam	3		
	Total Days	**21**		
	QUARTER 2			
	Unit 4 – Transformations			
	1. Intro to Transformations	1	• Textbook 7.6, 14.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			
	Define and investigate the properties of reflections, rotation,			

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	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	• Textbook 7.6, 9.1, 9.3, 14.2, 14.3 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – reflection, line reflection, translation			
	Define line reflection and its proper notation.			
	Define and apply line reflections in the lines x = 0, y = 9 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.			
	Find the image of a geometric figure under a line reflection or			

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	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.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	3. Rotations	2	• Textbook 7.6, 9.4, 14.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – rotation, center of rotation, angle of rotation, clockwise rotation, counterclockwise rotation			
	Define and investigate rotations.			
	Define and identify symbols for rotations.			
	Define rotation as the composition of two line reflections in intersecting line.			
	Define and apply R_{90} and R_{180} 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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	translations, rotations about the origin of 90º and 180º, reflections over the lines $x = 0$, $y = 0$, and $y = x$, and dilations centered at the origin.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea an effective approach to solve a problem from a variety of strategies (numeric, graphic, algebraic).			
	4. Dilations and Glide Reflections	2	• Textbook 7.6, 9.5, 9.7, 14.3, 14.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – composition of line reflections, dilations, glide reflections			
	Define and investigate dilations and its notation.			
	Determine the image of a point or figure after dilation.			
	Determine the scale factor of dilation.			
	Define and investigate glide reflections (composition of these line reflections) (do not use textbook – incorrect notation pg. 608 example 1).			
	Define the image of a point or figure after a glide reflection.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Justify the properties of dilations and glide reflections that remain invariant.			
G.G.54	Define, investigate, justify, and apply isometries in the plane (rotations, reflections, translations, glide reflections) Note: Use proper function notation.			
G.G.55	Investigate, justify, and apply the properties that remain invariant under translations, rotations, reflections, and glide reflections.			
G.G.57	Justify geometric relationships (perpendicularity, parallelism, congruence) using transformational techniques (translations, rotations, reflections).			
G.G.58	Define, investigate, justify, and apply similarities (dilations and the composition of dilations and isometries).			
G.G.59	Investigate, justify, and apply the properties that remain invariant under similarities.			
G.G.60	Identify specific similarities by observing orientation, numbers of invariant points, and/or parallelism.			
G.G.61	Investigate, justify, and apply the analytical representations for translations, rotations about the origin of 90º and 180º, reflections over the lines $x = 0$, $y = 0$, and $y = x$, and			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	dilations centered at the origin.			
G.PS.2	Observe and explain patterns to formulate generalizations and conjectures.			
G.CM.4	Explain relationships among different representations of a problem.			
G.CN.1	Understand and make connections among multiple representations of the same mathematical idea.			
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	2	• Textbook 9.6, 14.6, 14.8 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks &	
	Vocabulary – 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			

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	pictures.		sample tests	
	Given a figure identify its symmetries.			
	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	3	• Need to supplement • NYSED math glossary and math vocabulary list • McDougal supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – composition of functions, compositional notation			
	Define compositions and their notations.			

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	Given a transformation written in functional notation identify the type of transformation.		materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	
	Apply compositions to move points and figures.			
	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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	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.			
	7. Review	1		
	8. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**13**		
	Unit 5 – Circles			
	1. Introduction to Circles	1	• Textbook 10.1, pgs. 651-654 • NYSED math glossary and math vocabulary list • McDougal supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –circle, radius, chord, diameter, secant, tangent, point of tangency, common tangent, central angle, minor arc, major arc, semicircle, measure of minor and major arc,			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	congruent circles, congruent arc		materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
	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			
	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.			
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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	questions that elicit, extend, or challenge other students' conjectures.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			
G.CN.8	Develop an appreciation for the historical development of mathematics.			
	2. Central and Inscribed Angles	1	• Textbook 10.2, pg. 659, 10.4, pgs. 671-672 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –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 the 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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	inscribed angle.			
	Given the ratios of the arcs find the central or inscribed angles.			
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle when the vertex is inside the circle.			
G.R.1	Use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts.			
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	4	• 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	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 the measure of angle and intercepted arcs formed by a tangent and chord that intercept on the circle.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Find measure of angle and intercepted arcs formed by a tangent and radius or diameter.		• NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
	Find measure of angle and intercepted arcs formed by tangent and secant that intersect outside the circle.			
	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 measure of angle and intercepted arcs formed by two secants that intersect outside 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 when the vertex is inside the circle.			
G.G.53	Investigate, justify, and apply theorems regarding segments intersected by a circle.			
G.CM.11	Understand and use appropriate language, representations, and terminology when describing objects, relationships, mathematical solutions, and geometric diagrams.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
G.R.4	Select appropriate representations to solve problem situations.			
	4. Arcs and Angles in Complex Circles	2	• Supplemental from sequential III Regents Exams (ie: Jan 04 #36) • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – central angle, inscribed angle, intercepted arc			
	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.			
	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 when the vertex is inside the 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.			

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	Cyclic Review for Quarterly Exam	3		• Quarterly Exam
	5. Segments that Intersect Circles	3	• Textbook 10.6, pg. 689 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – segment, segment of a chord, secant segment, external segment			
	Given two chords that intercept inside a circle, find the measure of a segment.			
	Given two chords that intercept inside a circle, find the measure of the intercepted arcs.			
	Given two secants that intercept outside the circle, find the measure of each segment.			
	Given two secants that intercept outside the circle, find the measure of the arcs formed.			
	Given a secant and tangent that intercept outside the circle, find the measure of each segment.			
	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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	measures of each arc.			
	Recognize relationship between congruent chords and their arcs on a circle.			
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.53	Investigate, justify, and apply theorems regarding segments intersected by 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	2	• Textbook 10.3, pg. 664 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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			

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	distance from the center of the circle.		• mathbits.org • NYSED sample tasks & sample tests • Archived Sequential II Regents Exams	
	Given the length of the 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 chord, then the first chord is the diameter of the 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.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	2	• Textbook 10.4 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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.			

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G.G.36	Investigate, justify, and apply theorems about the sum of the measures of the interior and exterior angles of polygons.		• jmap.org • NYSED sample tasks	
G.G.51	Investigate, justify, and apply theorems about the arcs determined by the rays of angles formed by two lines intersecting a circle when the vertex is inside the circle.			
G.R.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	3	• regentsprep.org • jmap.org • mathbits.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – congruent chords, congruent arcs, inscribed angles, circumscribed, inscribed			
	Prove triangles in circles are congruent.			
	CPCTCP proofs in circles.			
	9. Review	2	• Textbook, pgs. 914, 922, 938	
	10. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**24**		
QUARTER 3				

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Unit 6 – Solids			
	1. Area of Regular Polygons	2	• Textbook 11.6, pg. 762 • Supplemental Textbook, pg. 440 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –polygon, regular polygon, apothem			
	Define the area of a regular polygon using apothem.			
	Determine the area of a regular polygon.			
	Determine the perimeter of a regular polygon.			
	Find the area of the shaded region.			
	Applications.			
G.CM.3	Present organized mathematical ideas with the use of appropriate standard notations, including the use of symbols and other representations when sharing an idea in verbal and written form.			
A.G.1	Find the area and/or perimeter of figures composed of polygons and circles or sectors of a circle. *Note: Figures may include triangles, rectangles, squares, parallelograms, rhombuses, trapezoids, circles, semi-circles, quarter-circles, and regular polygons (perimeter only).*			
	2. Solids	1	• Textbook 12.1, pg. 794 • Supplemental Textbook, pg.	• Class Work • Homework
	Vocabulary –polyhedron, face, edge, vertex, base, regular			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	polyhedron, convex polyhedron, prism, pyramid		475 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Questions on quizzes & tests
	Identify and name the parts of a polyhedral.			
	Given a polyhedron, name it and find the number of faces, edges, and vertices.			
	Define n-hedra and the prefix for 4, 6, 8 and 12.			
	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: o lateral edges are congruent o lateral faces are congruent isosceles triangles.			
	3. Lateral Area & Surface Area	2	• Textbook 12.2, pg. 803 • Supplemental Textbook, pg. 490 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary –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.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Know and apply that the lateral edges of a prism are congruent and parallel.			
	Determine the surface area of a right prism.			
	Determine the surface area of a right cylinder.			
	Distinguish the difference between surface area and lateral area.			
	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 areas of the sides.			
	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: o bases are congruent. o volume equals the product of the area of the base and the altitude.			

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

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
	5. Volumes of Pyramids and Cones (given formulas on regents exam)	1	• 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 tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – pyramid, cone, volume, triangular prism, triangular pyramid			
	Define and determine the volume of a pyramid theorem.			
	Define and determine the volume of a cone theorem.			
	Find a missing length given the volume.			
	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: o lateral edges are congruent lateral faces are congruent isosceles triangles.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
G.G.14	Apply the properties of a cylinder, including: o bases are congruent. o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
G.G.15	Apply the properties of a right circular cone, including: o volume is one-third the product of the area of its base and its altitude.			
G.PS.3	Use multiple representations to represent and explain problem situations (e.g., spatial, geometric, verbal, numeric, algebraic, 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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	mathematical ideas.			
G.R.4	Select appropriate representations to solve problem situations.			
G.R.5	Investigate relationships between different representations and their impact on a given problem.			
	6. Surface Area & Volume of Spheres (given formulas on regents exam)	1	• 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 tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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: o bases are congruent.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	o volume equals the product of the area of the base and the altitude. o lateral area of a right circular cylinder equals the product of an altitude and the circumference of the base.			
G.G.15	Apply the properties of a right circular cone, including: o volume is one-third the product of the area of its base and its altitude.			
G.G.16	Apply the properties of a sphere, including: o surface area is $4\pi r^2$ o volume is $\frac{4}{3}\pi r^3$			
	7. Review			
	8. Test	1	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**10**		
	Unit 7 – Locus and Constructions			
	1. Basic Locus	2	• Textbook A22-23 • Supplemental Textbook, pgs.	• Class Work • Homework
	Vocabulary – locus, loci, equidistant, perpendicular bisector,			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	angle bisector, parallel lines, intersecting lines, collinear points		401-422 • Review Integrated Math II, pgs. 178-179 • NYSED math glossary and math vocabulary list • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Questions on quizzes & tests
	Define locus and loci.			
	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.			
	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	• Textbook A22-23 • Supplemental Textbook, pgs. 401-422 • Review Integrated Math II, pgs. 180-184	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines, collinear points			
	Apply the seven loci to compound loci problems.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
	Identify the compound loci by drawing a diagram that contains the two fixed figures and then add the diagrams of the two loci as dotted lines.		• NYSED math glossary and math vocabulary list • Archived Sequential 2 • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks	
G.G.21	Investigate and apply the concurrence of medians, altitudes, angle bisectors, and perpendicular bisectors of triangles.			
G.G.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	3	• Textbook (see index) • Supplemental Textbook pgs. 375-418, 701 • NYSED math glossary and math vocabulary list • Cabri • Cabri, Jr.	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – copy, line, angle, bisect, bisector, perpendicular bisector, parallel lines, perpendicular lines, construct			
	Using constructions copy a line segment.			
	Using constructions copy an angle.			
	Construct the bisector of a line.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	Construct the bisector of an angle.		• Classzone.com • regentsprep.org • jmap.org • NYSED sample tasks & sample tests	
	Justify the construction of the bisector of an angle.			
	Construct a perpendicular bisector.			
	Justify the construction of the perpendicular bisector.			
	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			

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	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 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	3	• Textbook 10.6, pg. 689 • Supplemental Textbook pg. 208 • Worksheets • Math Folder • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – locus, loci, equidistant, perpendicular bisector, angle bisector, parallel lines, intersecting lines, 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			

STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	constructing the angle bisectors.		• NYSED sample tasks	
	Investigate the concurrence of triangle perpendicular bisectors by constructing the perpendicular bisectors.			
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.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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	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.			
	5. Review	1		
	6. Test	1	• Test Generator	• Chapter Test
	Cyclic Review for Quarterly Exam	3		• Quarterly Exam
QUARTER 4				
	Unit 8 – Linear & Quadratic Graphs			
	1. Slopes of Linear Functions	1	• Textbook 3.4, pg. 171 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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			

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	standard form equation to slope-intercept form equation.		• NYSED sample tasks & sample tests	
	Find the slope given the equation of a line.			
	Review the types of slopes (ie: positive, negative, zero, undefined).			
	Find the slope of a line given two points in the coordinate plane.			
	Find the slope of a line given two points, using the slope 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			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	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).			
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.			

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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 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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			

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	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.			
	3. Equations of Parallel & Perpendicular Lines	1	• 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	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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			

STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	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 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.			

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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	2	• **SUPPLEMENT** (not in textbook) • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – slope-intercept form, standard form, x-intercept, slop, perpendicular, mid-point, end points, perpendicular slope, bisector			
	Given two endpoints of a line segment: **a)** Determine the mid-point of that line segment **b)** Determine the slope of that line segment **c)** Determine the slope of the line segment that would be perpendicular to it			
	Using the mid-point 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.			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		**Pacing Days** (Plan #)	**RESOURCES** Print, Visual, Technology, Manipulatives	**ASSESSMENT** Evidence & Scoring Guides
G.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 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	• Textbook 10.7, pg. 699 • NYSED math glossary and math vocabulary list • McDougal supplemental materials	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – standard equation of a circle, radius, diameter, center			
	Define circle.			

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	Define the standard from equation of a circle and its parts.		• Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & Sample tests	
	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 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.			

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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.			
	6. Review Graphing Lines and Parabolas	1	• **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	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – 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 a 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			

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	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	2	• **SUPPLEMENT** • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – standard equation of a line, standard equation of a parabola, vertex			
	Graph an oblique (slant) line and parabola and find intersection(s).			
	Graph the vertical and 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.			

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A.G.9	Solve systems of linear and quadratic equations graphically (*Note: Only use systems of linear and quadratic equations that lead to solutions whose coordinates are integers*).			
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).			
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		

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	9. Test	1		
	Total Days	**12**	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Unit 9 – Coordinate Geometry Proofs			
	1. Mid-Point, Distance and Slope Formulas	2	• Supplemental Textbook 13.1, 13.5 • Reviewing Integrated Mathematics Course II, 7.1 • NYSED math glossary and math vocabulary list • McDougal supplemental materials • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests • Graphing Calculator	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – mid-point, distance slope, line segment			
	Given mid-point formula – find the mid-point of a line segment.			
	Given distance formula – find the length of a line segment.			
	Given slope formula – find the slope of a line segment.			
	Given coordinates of a figure apply the mid-point, distance, or slope formula (e.g., given coordinates of a parallelogram find lengths of all sides and find mid-point of diagonals).			
G.G.66	Find the midpoint of a line segment, given its endpoints.			
G.G.67	Find the distance of a line segment, given its endpoints.			
G.R.2	Recognize, compare, and use an array of representational forms.			

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	2. Coordinate Geometry Triangle Proofs	2	• Supplemental Textbook 13.8, 13.9 • Reviewing Integrated Mathematics Course II, 7.2 • NYSED math glossary and math • vocabulary list • McDougal supplemental materials • Cabri • Cabri, Jr. • Classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED sample tasks & sample tests	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – isosceles, equilateral, scalene, right triangles, mid-point formula, distance formula			
	Review properties of isosceles, equilateral, scalene, and right triangles that can be proven using mid-point or distance formula.			
	Investigate and devise coordinate geometry plans for proving triangles isosceles, equilateral, 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.			
	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,			

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	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.			
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	• Supplemental Textbook 13.8, 13.9 • Reviewing Integrated Mathematics Course II, 7.2 • NYSED math glossary and math • vocabulary list • McDougal supplemental	• Class Work • Homework • Questions on quizzes & tests
	Vocabulary – parallelograms, rhombus, rectangle, square, trapezoid, isosceles trapezoid			
	Review properties of parallelograms, rhombus, rectangle, square, trapezoid, and isosceles trapezoid that can be proven using the distance, mid-point or slope formula.			
	Investigate and **devise coordinate geometry plans** to prove a			

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

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	representations of 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, 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	• Test Generator	• Chapter Test • Questions on Quarterly Assessment
	Total Days	**10**		

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STANDARDS Key Ideas, Major Understandings, Performance Indicators, Competencies		Pacing Days (Plan #)	RESOURCES Print, Visual, Technology, Manipulatives	ASSESSMENT Evidence & Scoring Guides
	REGENTS REVIEW		• NYSED math glossary and math vocabulary list • classzone.com • regentsprep.org • jmap.org • mathbits.org • NYSED Sample tasks & sample tests	