	I know…" Statements (Concepts – **CONNECTIONS** - Nouns - Big Ideas)	"I can…" Statements (Skills – Verbs – Learning Targets Enduring Understanding)	Lesson	Marking Period	Vocabulary
Unit 1: Congruence, Proof, and Constructions G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	I know the definition of an angle.	I can describe an angle precisely. **I CAN MEASURE AN ANGLE OR COMPUTE ITS MEASURE BASED ON A DIAGRAM.**	**Start Here:**		Ray, vertex, angle
	I know the definition of a circle.	I can describe a circle precisely.	1-1, 1-3, 1-4, 1-5, 3-1, 10-1, 10-2		Points, equidistant, center
	I know the definition of perpendicular lines.	I can describe a set of perpendicular lines **AND DETERMINE IF TWO LINES ARE PERPENDICULAR BASED ON A DIAGRAM.**			Line, intersect, right angle
	I know the definition of parallel lines.	I can describe a set of parallel lines.			Line, intersect, coplanar
	I know the undefined terms, point & line.	I can describe a point and a line.			Dimension
	I know the undefined term, distance along a line.	I can describe the distance along a line.			Point, absolute value
	I know the undefined term, distance around a circular arc.	I can describe the distance around a circular arc.			Circumference, ratio, arc
G.CO.2 Represent	I know how to represent transformations	I can draw transformations of			Transformation,

transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	of reflections, rotations, translations, and combinations of these in the plane using the appropriate tools.	reflections, rotations, translations, and combinations of these using appropriate tools.	9-1, 9-2, 9-3, 9-5, 9-6,		reflection, rotation, translation, image, preimage
	I know how to describe transformations as functions that take points in the plane as inputs and give other points as outputs.	I can determine the coordinates for the image (output) of a figure when a transformation rule is applied to the preimage (input).			Transformation, reflection, rotation, translation, image, preimage, input, output, coordinates
	I know how to compare transformations that preserve distance and angle to those that do not.	I can distinguish between transformations that are rigid (preserve distance and angle measure – reflections, rotations, translations, or combinations of these) and those that are not (dilations or rigid motions followed by dilations).			Transformation, reflection, rotation, translation, image, preimage, input, output, coordinates, dilation, rigid motion, distance, angle measure
G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	I know how a rectangle is mapped onto itself using transformations.	I can describe and illustrate how a rectangle is mapped onto itself using transformations.	9-1, 9-3,		Rectangle, mapped onto
	I know how a parallelogram is mapped onto itself using transformations.	I can describe and illustrate how a parallelogram is mapped onto itself using transformations.			Parallelogram, mapped onto
	I know how an isosceles trapezoid is mapped onto itself using transformations.	I can describe and illustrate how an isosceles trapezoid is mapped onto itself using transformations.			Isosceles trapezoid, mapped onto
	I know the number of lines of reflection symmetry of any regular polygon.	I can calculate the number of lines of reflection symmetry of any regular polygon.			Regular polygon, reflection symmetry

	I know the degree of rotational symmetry of any regular polygon.	I can calculate the degree of rotational symmetry of any regular polygon.			Regular polygon, rotational symmetry
G.CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	I know the definition of rotations in terms of angles.	I can construct the rotation definition by connecting the center of rotation to any point of the preimage and to its corresponding point on the rotated image.	9-1, 9-2, 9-3, 9-5, 9-6		Rotation, preimage, image, angle, center of rotation
	I know the measure of the angle as part of the definition of rotations.	I can describe the measure of the angle formed and the equal measures of the segments that formed the angle as part of the definition.			
	I know how to translate figures using coordinates or lines.	I can construct the reflection definition by connecting any point on the preimage to its corresponding point on the reflected image.			
		I can describe the line segment's relationship to the line of reflection.			
		I can construct the translation definition by connecting any point on the preimage to its corresponding point on the translated image.			
		I can connect a second point on the preimage to its corresponding point on the translated image.			
		I can describe how the two segments are equal in length, point in the same direction, and are parallel.			
G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using,	I know how to rotate, reflect, and translate figures. I know how to write a sequence of	I can draw a specific transformation when given a geometric figure and a rotation, reflection, or translation.	4-3, 9-1, 9-2, 9-3		Reflection, rotation, translation, figure, map,

e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	transformations.	I can predict and verify the sequence of transformations (a composition) that will map a figure onto another.			transformation, composition
G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. G.CO.7 Use the definition of congruence in terms of rigid congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	I know how to rotate, reflect, and translate figures. I know what makes two or more figures congruent. I know what rigid motions are. I know what corresponding sides and angles are.	I can define rigid motions as reflections, rotations, translations, and combinations of these, all of which preserve distance and angle measure. I can define congruent figures as figures that have the same shape and size and state that a composition of rigid motions will map one congruent figure onto the other. I can predict the composition of transformations that will map a figure onto a congruent figure. I can determine if two figures are congruent by determining if rigid motions will turn one figure into the other. I can identify corresponding sides and corresponding angles of congruent triangles. I can explain that in a pair of congruent triangles, corresponding sides are congruent (distance is preserved) and corresponding angles are congruent (angle measure is preserved).	4-3 9-1, 9-2, 9-3 4-3, 4-4 4-3,4-4		Congruence, composition, rigid motions, map, reflection, rotation, translation, transformation, angle measure, distance, SAS, ASA, SSS

		I can demonstrate that when distance is preserved (corresponding sides are congruent) and angle measure is preserved (corresponding angles are congruent) the triangles must also be congruent. I can define rigid motions as reflections, rotations, translations, and combinations of these, all of which preserve distance and angle measre. I can list the sufficient conditions to prove triangles are congruent. I can map a triangle with one of the sufficient conditions(e.g. SSS) onto the original triangle and show that corresponding sides and corresponding angles are congruent.			
G.CO.9 Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the*	I know theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints so I can use them in proofs.*	I can use theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints to solve proofs.* I can identify and use the properties of	2-5, 2-7, 2-8,		Theorem, linear pair, vertical angles, alternate interior angles, alternate exterior, same-side interior angles, corresponding angles, perpendicular bisector,

segment's endpoints. G.CO.10 Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* G.CO.11 Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*	Prove that the measures of the interior angles of a triangle add to 180 degrees. Prove that the base angles of an isosceles triangle are congruent. Construct midsegments for each of the sides of a triangle. Prove congruency and other information about parallelograms. I can do this using a variety of proof types. I.E. paragraph, two-column and other informal and formal proofs.	congruence and equality (reflexive, symmetric, transitive) in my proofs. I can order statements based on the Law of Syllogism when constructing my proof. I can correctly interpret geometric diagrams by identifying what can and cannot be assumed. I can use theorems, postulates, or definitions to prove theorems about lines and angles, including: a. Vertical angles are congruent; b. When a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent, and same-side interior angles are supplementary; c. Points on a perperndicular bisector of a line segment are exactly those equidistant from the segment's endpoints. I can order statements based on the Law of Syllogism when constructing my proof. I can correctly interpret geometric diagrams (what can and cannot be assumed). I can use theorems, postulates, or definitions to prove theorems about	4-2, 4-6, 4-7, 5-1, 6-4, 8-3, 8-4, 8-5		supplementary angles, complimentary angles, equidistant, congruent properties, adjacent, consecutive/non-consecutive, reflection, Law of Syllogism, midpoint, midsegment, isosceles triangle, median, centroid, coordinate proof, quadrilateral, parallelogram, rectangle, distance formula, midpoint formula, slope, bisector,

		triangles, including: a. Measures of interior angles of a triangle sum to 180. b. Base angles of isosceles triangles are congruent; c. The segment joining midpoints of two sides of a triangle is parallel to the tird side and half the length; d. The medians of a triangle meet at a point. I can use theorems, postulates, or definitions to prove theorems about parallelograms, including: a. Prove opposite sides of a parallelogram are congruent; b. Prove opposite angles of a parallelogram are congruent; c. Prove the diagonals of a parallelogram bisect each other; d. Prove that rectangles are parallelograms with congruent diagonals.			
G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing*	Use tools and methods to construct segments, angles, perpendicular lines and bisectors, parallel lines, etc.	I can identify the tools used in formal constructions. I can use tools and methods to precisely copy a segment, copy an angle, bisect a segment, bisect an angle, construct perpendicular lines and bisectors, and construct a line parallel to a given line through a point not on the line. I can informally perform the	1-1, 1-4, 1-5,		Segment, angle, perpendicular lines, perpendicular bisector, parallel lines, bisect, formal construction, informal construction, compass, straightedge,

perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.		constructions listed above using string, reflective devices, paper folding, and/or dynamic geometric software.			equilateral triangle, square, regular hexagon, inscribe, circle
G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	Construct polygons inscribed in circles.	I can define inscribed polygons (the vertices of the figure must be points on the circle). I can construct an equilateral triangle inscribed in a circle. I can construct a square inscribed in a circle. I can construct a hexagon inscribed in a circle. I can explain the steps to constructing an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	Pg.559 in Chapter 10		
Unit 2: Similarity, Proof, and Trigonometry					
G.SRT.1 Verify experimentally the properties of dilations given by a center and a scale factor. a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center	Identify a dilation given by its center and scale factor.	I can define a dilation. I can perform a dilation with a given center and scale factor on a figure in the coordinate plane. I can verify that when a side passes through the center of dilation, the side and its image lie on the same line. I can verify that corresponding sides of	9-5 a little but not really there		Dilation, center, scale factor, image, slope, parallel, corresponding sides, preimage, distance, segment, ratio, similarity, composition, rigid motion, dilation, angle measure,

unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Use the definition of similarity with transformations to decide if two figures are similar. Explain using transformations that the meaning of similarity of triangles is the equality of corresponding pairs of angles and the proportionality of all corresponding sides. Use the properties of similarity transformations to establish AA for similarity to prove two triangles are similar.	the preimage and images are parallel. I can verify that a side length of the image is equal to the scale factor multiplied by the corresponding side length of the preimage. I can define similarity as a composition of rigid motions followed by dilations in which angle measure is preserved and side length is proportional. I can identify corresponding sides and corresponding angles of similar triangles. I can demonstrate that in a pair of similar triangles, corresponding angles are congruent (angle measure is preserved) and corresponding sides are proportional. I can determine that two figures are similar by verifying that angle measure is preserved and corresponding sides are proportional. I can show and explain that when two angle measures are known (AA), the third angle measure is also known (Third Angle Theorem). I can conclude and explain that AA similarity is a sufficient condition for two triangles to be similar.	9-5, Not in 9-5 or6-3 Not in book		side length, proportion, corresponding angles, similarity transformation, angle measure,

G.SRT.4 Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity*. G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Prove that a line parallel to one side of a triangle divides the other two sides proportionally. Prove that two triangles are similar by using the Pythagorean Theorem. Use similarity criteria for triangles to solve problems.	I can use theorems, postulates, or definitions to prove theorems about triangles, including: a. A line parallel to one side of a triangle divides the other two proportionally; b. If a line divides two sides of a triangle proportionally, then it is parallel to the third side; c. The Pythagorean Theorem proved using triangle similarity. I can use triangle congruence and triangle similarity to slove problems (e.g., indirect measure, missing sides/angle measures, side splitting). I can use triangle congruence and triangle similarity to prove relationships in geometric figures.	6-4, 7-2 12-5, 8-1, 6-2, 6-3		Proof, corresponding angles, similarity, segment addition, parallel, intersect, Pythagorean Theorem, congruence, side length, angle measure, proportional, corresponding sides, triangle congruence, triangle similarity
G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	Find the point on a directed line segment that partitions the given segment into a given ratio. Use the ratios of side lengths of right triangles to find properties of the angles in the triangle. Define the sine and cosine ratio for acute angles of right triangles.	I can demonstrate that within a right triangle, line segments parallel to a leg create similar triangles by AA similarity. I can use the characteristics of similar figures to justify the trigonometric ratios. I can define the following trig. ratios for acute angles in a right triangle.	7-3, 7-4,		Similarity, rigid motion, dilation, angle measure, proportional, right triangle, line segment, parallel, leg hypotenuse, AA similarity, corresponding sides, tangent sine, cosine, acute angle,

G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles. G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★	Explain that sinA is equal to cosB in the same right triangle. Therefore, <A + <B=90 degrees and are complementary angles. I CAN use the sine, cosine, and tangent ratio to solve applied problems involving right triangles. I CAN use the Pythagorean Theorem to solve applied problems involving right	I can use division and the Pythagorean Theorem to prove that sinA squared +cosA squared =1. I can define complementary angles. I can calculate sine and cosine ratios for acute angles in a right triangle when given two side lengths. I can use a diagram of a right triangle to explain that for a pair of complementary angles A and B, the sine of angle A is equal to the cosine of angle B and the cosine of angle A is equal to the sine of angle B. I can use angle measures to estimate side lengths.(in triangles for example) I can use side lengths to estimate angle measures. I can solve right triangles by finding the measures of all sides and angles in the triangles. I can use sine, cosine, tangent, and their inverses to solve for the unknown side lengths and angle measures of a right triangle. I can use Pythagorean theorem to solve for an unknown side length of a right triangle.	Not in book 7-2, 7-4		ratio, trigonometry, constant, complementary angles, acute angle, sine ratio, cosine ratio, right triangle, tangent ratio, inverse trig. Ratio, Pythagorean theorem, side, angle, triangle

	triangles.	I can draw right triangles that describe real world problems and label the sides and angles with their given measures. I can solve application problems involving right triangles, including angle of elevation and depression, navigation, and surveying.			
G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).* G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).* G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems	Apply density in area and volume situations. Find the surface area of a prism or cylinder. Find the surface area of pyramids and cones. Give an informal argument about the formula for the volume of a sphere. Apply geometry methods to solve design problems. Analyze what multiplying one or more of the dimensions of a figure does, and how it affects its attributes.	I can represent real-world objects as geometric figures. I can estimate measures (circumference, area, perimeter, volume) of real-world objects using comparable geometric shapes or three-dimensional figures. I can apply the properties of geometric figures to comparable real –world objects. (spokes are like radius) I can decide whether it is best to calculate or estimate the area or volume of a geometric figure and perform the calculation or estimation. I can break composite geometric figures into manageable pieces. I can convert units of measure (e.g., convert square feet to square miles). I can apply area and volume to	11-1,11-2 11-3,12-3 12-4,12-5 12-6,12-7 11-1,11-2 11-3,12-3 12-4,12-5 12-6,12-7		Circumference, area, perimeter, volume, unit of measure, convert, density, composite figures, geometric model, graph, equation, table formula

based on ratios).*		situations involving density. I can create a visual representation of a design problem. I can solve design problems using a geometric model(graph, equation, table, formula). I can interpret the results and make conclusions based on the geometric model.	6-3		
G.SRT.9 (+) Derive the formula *A* = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side. G.SRT.10 (+) Prove the Laws of Sines and Cosines and use them to solve problems.	Prove the formula for finding area using the ratio for sine. I can use the Law of Sines to solve problems. Use the Law of Cosines to solve problems.	I can understand that two right triangles are created when an altitude is drawn from a vertex. I can find the length of a triangle's altitude by using the sine function. I can use the traditional area formula of a triangle A=1/2xBasexHeight and the sine function to generate an equivalent are formula A=½ x a x b x SinC. I can calculate the area of a triangle using the formula A=1/2 x a x b x SinC, using any angle of the triangle . I can derive the law of sines by drawing an altitude in a triangle, using the sine function to find two expressions for the length of the	Not there 7-6, 7-7 7-6, 7-7		Vertex, perpendicular, sine ratio, altitude, law of sines, right triangle, side, Pythagorean theorem, law of cosines, ASA, AAS, SSA,SAS, SSS, triangle inequality,

G.SRT.11 (+) Understand and		altitude, and simplifying the equation that results from setting these expressions equal sinA/a=sinB/b=sinC/c. I can use the law of sines to solve real world problems. I can draw an altitude to create two right triangles and can establish the relationships of the sides in each right triangle using the sine and cosine functions of a single angle in the original triangle. I can derive the law of cosines using the Pythagorean theorem, two right triangles formed by drawing an altitude, and substitution. I can generalize the law of cosines to apply to each included angle. I can use the law of cosines to solve real world problems. I can use the triangle inequality and side/angle relationships to estimate the measures of unknown sides and angles. I can distinguish between situations that require the law of sines (ASA,AAS,SSA) and situations that require the law of cosines (SAS, SSS).			

apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).		I can apply the law of sines to find unknown side lengths and unknown angle measures in right and non-adjacent angle measue(SSA). Make two triangles, one triangle, or no triangle. I can apply the law of cosines to find unknown side lengths and unknown angle measures in right and non-right triangles. I can represent real world problems with diagrams of right and non-right triangles and use them to solve for unknown side lengths and angle measures.			
Unit 3: Extending to Three Dimensions					
G.GMD.1 & 2 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.* G.GMD.3 Use volume formulas for cylinders, pyramids, cones,	Give an informal argument about the formula for the volume of a cylinder. Give an informal argument about the formula for the volume of a pyramid. Give an informal argument about the formula for the volume of a cone. Give an informal argument about the formula for the volume of a sphere.	I can define pi as the ratio of a circle's circumference to its diameter. I can use algebra to demonstrate that because pi is the ratio of a circle's circumference to its diameter that the formula for a circle's circumference must be C=pi x D. I can inscribe a regular polygon in a circle and break it into many congruent triangles to find its area. I can explain how to use the dissection	Better covered in on core mathem atics book but easily done		Pi, circle, circumference, diameter, dissection, equivalent, ratio, area, regular, polygon, perimeter, side, apothem, radius, base, prism, cylinder, pyramid, cone, volume, substitute, height

and spheres to solve problems.★	Analyze what multiplying one or more of the dimensions of a figure does, and how it affects its attributes.	method on regular polygons to generate an area formula for regular polygons A=1/2 apothem x perimeter. I can calculate the area of a regular polygon A=1/2 x apothem x perimeter. I can use pictures to explain that a regular polygon with many sides is nearly a circle, its perimeter is nearly the circumference of a circle, and that its apothem is nearly the radius of a circle. I can substitute the "nearly" values of a many sided regular polygon into A=1/2 x apothem x perimeter to show that the formula for the area of a circle is A=pi x radius squared. I can identify the base for prisms, cylinders, pyramids, and cones. I can calculate the area of the base for prisms, cylinders, pyramids, and cones. I can calculate the volume of a prism using the formula V=B x H and the volume of a cylinder V=pi x radius squared x H. I can defend the statement, "The formula for the volume of a cylinder is basically the same as the formula for the volume of a prism."	with corresp onding sections 12-2,12-3 12-4,12-5 12-6,12-7		

		I can explain that the volue of a pyramid is 1/3 the volume of a prism with the same base area and height and that the volume of a cone is1/3 the volume of a cylinder with same base area and height. I can defend the statement,"The formula for the volume of a cone is basically the same as the formula for the volume of a pyramid."			
G.GMD.4 Identify the shapes of two-dimensional cross-sections of three dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	Identify the shapes of two- dimensional cross-sections that are cut from three-dimensional objects.		12-1		
G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*	Apply density in area and volume situations. Apply geometry methods to solve design problems.				
Unit 4: Connecting Algebra and Geometry Through Coordinates					
G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or*	Use coordinate Geometry to prove that a figure is a rectangle, or that a point lies in or on the circle.	I can use coordinates to prove simple Geometry.	4-7, 8-7		Coordinates, rectangle, points, circles,

disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2). G.GPE.5 Prove the slope criteria for parallel and perpendicular lines and uses them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio. G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★	Prove that parallel lines have the same slope, and that perpendicular lines have opposite/reciprocal slopes. I know how to find the point on a directed line segment between two given points that breaks the segment in a given ratio. I know how to use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	I can find equation of lines parallel or perpendicular to given lines that pass through a given point. I can find points on directed line segments. I can use coordinate Geometry to find the perimeter of polygons using the distance formula.	3-3 Use On Core Mathe matics book 8-3 1-6 And in On Core 8-3		Parallel lines, Perpendicular lines, equations, slope, opposite/reciprocal Directed line segment, line segment, ratio Coordinate Geometry, Perimeter, Distance formula, Area
G.GPE.2 Derive the equation of a parabola given a focus and directrix.	Prove the equation of a parabola given a focus and directrix.	I can find the equation of a parabola given the focus and directrix.	8-2 In On Core Book		Parabola, focus, directrix, center
Unit 5: Circles With and Without Coordinates					
G.C.1 Prove that all circles are similar.	I know how to show similarity between circles.	I can	Not there		Similarity, Circles, Inscribed, radius,

G.C.2 Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.* G.C.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. G.C.4 (+) Construct a tangent line from a point outside a given circle to the circle.	I know how to identify inscribed angles in circles, radii and chords. Use permutations to compute probabilities of compound events.		5-3 in On Core book 10-4, 10-5 Not There, In On Core Math 7-2, 7-4 7-5 10-5		radii, chord Central Angle, inscribed angle, circumscribed angles, diameter, right angles, perpendicular, tangents, intersect
G.C.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector. G.GPE.1 Derive the equation	I know how to use the Pythagorean Theorem given the center and its radius to		10-2 used with On Core section 9-4		

of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	determine the equation of the circle. I know how to complete the square to find the center and radius.		10-8 used with On Core Math 8-1		
G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).*					
G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*					
Unit 6: Applications of Probability					
S.CP.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and,"			Not in book. Use On Core Math 11-1		

"not"). S.CP.2 Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent. S.CP.3 Understand the conditional probability of *A* given *B* as *P(A* and *B)/P(B)*, and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. S.CP.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your*					

school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results. S.CP.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*					
S.CP.6 Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. S.CP.7 Apply the Addition Rule, *P(A* or *B) = P(A) + P(B) – P(A* and *B)*, and interpret the answer in terms of the model. S.CP.8 (+) Apply the general Multiplication Rule in a uniform probability model,					

P(A and *B) = P(A)P(B|A) = P(B)P(A|B)*, and interpret the answer in terms of the model. S.CP.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems.					
S.MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). S.MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).					