Winchester Public Schools
Geometry Pacing Guide
First Quarter

SOL	Topic	Blocks	
1.1	Identify the converse, inverse, and contrapositive of a conditional statement.		
1.2	Translate short verbal arguments into symbolic form, such as $(P \rightarrow Q)$ and $(\sim P \rightarrow \sim Q)$.	1	
1.3	Use and interpret Venn Diagrams.		
1.4	Determine the validity of a logical argument.		
1.5	Use valid forms of deductive reasoning, including the Law of Syllogism.	1	
1.6	Select and use various types of reasoning and methods of proof, as appropriate. (Include algebraic proof, inductive and deductive reasoning.	1	
Review	Basic terms & notation: point, line, line segment (measure segments), ray, angle (obtuse, acute, right, straight), plane, space, intersecting lines, parallel lines, skew lines, perpendicular lines, oblique lines, coincident lines. Measure segments and angles with ruler and protractor.	1	
2.4	Find the slope of a line, given the graph or the coordinates of two points on the line.	1	
Review	Use slope to determine parallel and perpendicular lines $(y = mx + b)$.		
2.3	Find the coordinates of the midpoint of a segment, using the midpoint formula.		
11.1a	Construct a line segment congruent to a given line segment.		
11.1b	Construct the bisector of a line segment.	1	
11.1c	Construct a perpendicular to a given line from a point not on the line.		
11.1d	Construct a perpendicular to a given line at a point on the line.		
3.2a	State the relationship between pairs of angles including linear pair, vertical angles, complementary and supplementary angles.		
3.6a	Solve practical problems by using the relationships between pairs of angles such as vertical angles, linear pairs, complementary, and supplementary angles. (Include algebraic applications)	2	
11.1e	Construct the bisector of a given angle.	1	
11.1f	Construct an angle congruent to a given angle.		
3.1	Classify the types of angles formed by two lines and a transversal.		
3.2b	State the relationship between pairs of angles, including corresponding angles, alternate interior angles, and same-side (consecutive interior angles).	1	
3.6b	Solve practical problems by using the relationships between pairs of angles such as corresponding angles, alternate interior angles, and same-side interior angles. (Include algebraic applications)	1	
3.3	Solve practical problems involving intersecting and parallel lines in a plane.	1	
4.1	Use properties, postulates, and theorems to determine whether two lines are parallel.	1	
4.2	Use algebraic, coordinate, and deductive methods to determine whether two lines are parallel.	1	

Winchester Public Schools
Geometry Pacing Guide
Second Quarter

SOL	Topic	Blocks	
Review	Classifying triangles by sides and angles (acute, obtuse, scalene, right, isosceles).		
Review	The triangle angle sum is always 180 degrees.	1	
Review	Using the isosceles Triangle Theorem and its converse. (Base Angles are congruent).		
6.2	Arrange the angles of a triangle in order from smallest to largest when given the lengths of the sides.		
6.3	Arrange the sides of a triangle in order from smallest to largest when given the measures of the angles.	1	
6.1	Given the lengths of three segments, determine whether a triangle could be formed.		
6.4	Given the lengths of two sides of a triangle determine the range in which the lengths of the third side must lie.		
	Define and recognize special segments of a triangle including medians, altitudes, angle bisectors, perpendicular bisectors, and mid-segments.		
	Construct the points of concurrency for altitudes, medians, perpendicular bisectors, and angle bisectors.	1	
Review	Simplifying radicals and finding geometric means between two numbers.	1	
7.1	Given the lengths of two sides of a right triangle, use Pythagorean theorem to find the length of the third side.		
2.2	Apply the distance formula to find the length of a line segment when given the coordinates of the endpoints.	1	
7.2	Determine whether a triangle formed with three given lengths is a right triangle (include acute, or obtuse determination).		
Review	Using the isosceles triangle theorem (sides opposite congruent angles are congruent).		
7.3	Solve for missing lengths in geometric figures, using properties, of 45-45-90 triangles.	1	
7.4	Solve for missing lengths in geometric figures using properties of 30-60-90 triangles.	1	
7.5	Solve problems involving right triangles, using sine, cosine, and tangent ratios.	1	
7.6	Solve practical problems, using right triangle trigonometry and properties of right triangles.	1	
5.4	Use coordinate methods, such as distance and slope formula to prove triangles are congruent.		
5.1	Use definitions, postulates and theorems to determine whether triangles are congruent.	4	

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Third Quarter

SOL	Topic	Blocks	
Review	Definitions: Special quadrilaterals (square, rectangle, rhombus and trapezoid).	1	
8.3	Prove the properties of quadrilaterals, using deductive reasoning.		
8.2	Prove that quadrilaterals have specific properties, using coordinate and algebraic methods, such as distance formula, slope and midpoint.	2	
8.1	Solve practical problems, using the properties specific to parallelograms, rectangle, rhombi, squares and trapezoids.	1	
Review	Types of polygons by number of sides. Definition of convex and concave polygons. Definition of regular polygons.	2	
3.4	Find the sum of the measures of the interior and exterior angles of a convex polygon.		
3.5	Find the measure of each interior and exterior angle of a regular polygon.		
9.1	Solve problems involving the measures of interior and exterior angles of polygons.		
5.3	Use algebraic methods, such as properties of proportions, to prove that triangles are similar.	2	
5.2	Use definitions, postulates and theorems to determine whether triangles are similar.		
	Use geometric mean proportions to solve for the lengths of sides and/or altitudes in a right triangle.	1	
14.3	Solve practical problems involving similar objects.		
12.4	Solve problems, using scale drawings, perspective drawings, blueprints, or computer drawings as models of 3 dimensional objects.	1	
Review	Finding perimeter, area, surface area and volume of polygons and solids.	2	
14.1	Compare perimeters and areas of similar two-dimensional figures using proportions.		
14.2	Describe how a change in one measure affects other measures of an object. Measures of an object may include perimeter, area, total surface area and volume.		
	THIRD QUARTER ASSESSMENT		
Review	Circle vocabulary: radius, diameter, chord, secant, tangents, major and minor arcs, semicircle	3	
	Definitions: central angle, inscribed angle, angles formed by chords, secants and tangent segments. Find measures of central angles and of angles formed by chords, secants and tangents.		
10.4	Solve practical problems associated with circles, using properties of angles and arcs.		

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Fourth Quarter

SOL	Topic	Blocks	
10.1	Given two intersecting chords or two intersecting tangents, find missing lengths.	1	
10.3	Given the measure of a central angle in degrees and the radius of the circle, find the related arc length.	1	
10.2	Calculate the area of a sector of a circle using proportions.		
Review	Definitions: Rectangular solid, cylinder, cone, pyramid, sphere, hemisphere. Be able to draw each of the figures.	2	
12.5	Identify a 3-dimensional object from different positions, such as the top view, side view, and front view.		
12.3	Make a 2-dimensional representation of a 3-dimensional object.		
12.1	Use properties of 3-dimensional objects to make models.	1	
12.2	Make a model of a 3-dimensional figure from a 2-dimensional drawing.		
13.1	Find the total surface area of cylinders, prisms, pyramids, cones and spheres, using the appropriate formulas.	2	
13.2	Calculate the volume of cylinders, prisms, pyramids, cones and spheres, using the appropriate formulas.		
13.3	Solve practical problems involving total surface area and volume of cylinders, prisms, pyramids, cones and spheres as well as combinations of three dimensional figures.	1	
2.1	Given an image and preimage, identify the transformation that has taken place as reflection, rotation or translation.	1	
2.5	Determine whether a figure has point symmetry, line symmetry or neither.		
9.2	Identify tessellations in art, construction, and nature.		