

GEOMETRY PACING GUIDE

FIRST QUARTER				
UNIT	PACING	SAVVAS Topics	STANDARDS	LEARNING OBJECTIVES
Topic 1 Foundations of Geometry	17 days	1-1 Measuring Segments and Angles 1-2 Basic Constructions 5-1 Perp and Angle Bisectors 1-3 Midpoint and Distance 1-7 Writing Proofs	- G.CO.C.8 - G.N.Q.A.1 - G.CO.D.11 - G.CO.D.12 - G.GPE.A.1 - G.GPE.A.3 - G.N.Q.A.1.a - G.N.Q.A.1.b - G.N.Q.A.1.c - C.CO.C.8	- Use the Ruler and Segment Addition Postulates - Use the Protractor and Angle Addition Postulates - Identify congruent segments and congruent angles - Construct copies of segments and angles, perpendicular bisectors of segments, and bisectors of angles - Use the Perpendicular Bisector Theorem to solve problems - Use the Angle Bisector Theorem to solve problems - Use the midpoint formula to find the midpoint of a segment drawn on the coordinate plane - Use the distance formula to find the length of a segment drawn on the coordinate plane - Use deductive reasoning to prove geometric theorems about lines and angles
Topic 2 Parallel and Perpendicular Lines	17 days	2-1 Parallel Lines 2-2 Proving Lines Parallel 2-3 Parallel Lines and Triangle Angle Sums 5-2 Bisectors in Triangles 5-3 Medians and Altitudes 5-4 Triangle Inequality 2-4 Slopes of Parallel and Perpendicular Lines	- G.CO.C.8 - G.CO.C.9 - G.GPE.A.2	- Define parallel lines using the undefined terms point and line - Use theorems to find the measures of angles formed by parallel lines and a transversal - Prove that two lines cut by a transversal are parallel using the converses of parallel line angles relationship theorems - Use properties of parallel lines and transversals to solve real-world and mathematical problems - Use lines constructed parallel to another line to solve problems and prove theorems - Use the sum of the angle measures in a triangle to solve problems - Prove that the side lengths of a triangle are related to the angle measures of the triangle - Show that two lines in the coordinate plane are parallel and perpendicular by comparing their slopes, and use that information to solve problems

Topic 3 Transformations	15 days	3-1 Reflections 3-2 Translations 3-3 Rotations 3-4 Classifications of rigid motions 3-5 Symmetry	- G.CO.A.1 - G.CO.A.3 - G.CO.A.4 - G.CO.B.5 - G.CO.A.2	- Find a reflection, rotation, or translation of a figure and write a rule for reflection, rotation or translation of a figure - Find the image of a figure after a composition of rigid motions - Specify a sequence of transformations that will carry a given figure onto another - Use geometric descriptions of rigid motions to transform figures - Describe the rotations and/or reflections that carry a polygon onto itself - Identify types of symmetry in a figure
SECOND QUARTER				
UNIT	PACING	TOPICS	STANDARDS	LEARNING OBJECTIVES
Topic 4 Triangle Congruence	12 days	4-1 Congruence 4-2 Isosceles and Equilateral Triangles 4-3 SAS and SSS Congruence 4-4 ASA and AAS Congruence 4-5 Congruence in Right Triangles 4-6 Congruence in Overlapping Triangles	- G.CO.A.4 - G.CO.B.5 - G.CO.B.6 - G.CO.C.9 - G.CO.B.7 - G.SRT.B.3	- Relate congruence to rigid motions - Demonstrate that two figures are congruent by using one or more rigid motions to map one onto the other - Use properties of and theorems about isosceles and equilateral triangles to solve problems - Prove triangle congruence by SAS,SSS, ASA, AAS, and HL criteria and use triangle congruence to solve problems - Understand that corresponding parts of congruent triangles are congruent and use CPCTC to prove theorems and solve problems - Apply congruence criteria to increasingly difficult problems involving overlapping triangles and multiple triangles - Prove triangles are congruent by identifying corresponding parts and using theorems
Topic 6 Quadrilaterals and Other Polygons	13 days	6-1 The Polygon Angle-Sum Theorems 6-2 Kites and Trapezoids 6-3 Properties of Parallelograms 6-5 Properties of Special Parallelograms	- G.CO.C.9 - G.SRT.B.3 - G.CO.C.10	- Show that the sum of the exterior angles of a polygon is 360 and use that to solve problems - Show that the sum of the interior angles of a polygon is the product of 180 and two less than the number of sides, and use that to solve problems - Use properties of the kites and trapezoids to solve problems - Use properties of parallelograms to solve problems - Use properties of rhombuses, rectangles, and squares to solve problems
Topic 12 Probability	10 days	12-1 Probability Events - TN-2 Representing outcomes using	- G.S.CP.A.1.a - G.S.CP.A.1.b - G.S.CP.B.3.a - G.S.CP.B.3.b - G.S.CP.C.4	- Explain independence of events in everyday language and everyday situations - Determine the probability of the union of two events (A or B) and the intersection of two events (A and B) - Use set notation to represent contextual situations

		Set Notation 4. 12-2 Conditional Probability 5. 12-3 Permutations and Combinations 6. TN-3 Finding Probability Using Geometric Figures	• G.S.CP.B.2 • G.S.CP.C.4	• Use and understand conditional probability • Use and understand combinations and permutations • Calculate probabilities using geometric figures
Review and exams	5 days	Topics #1-6 & Topic 12		
THIRD QUARTER				
UNIT	PACING	TOPICS	STANDARDS	LEARNING OBJECTIVES
Topic 7 Similarity	12 days	1. 7-1 Dilations 2. 7-2 Similarity Transformations 3. 7-3 Proving Triangles Similar 4. 7-4 Similarity in Right Triangles 5. 7-5 Proportions in Triangles	• G.CO.A.1 • G.SRT.A.1 • G.N.Q.A.1 • G.N.Q.A.1.a • G.SRT.A.2 • G.SRT.B.3 • G.CO.C.9	• Dilate figures on and off the coordinate plane • Understand that two figures are similar if there is a similarity transformation that maps one figure to the other • Prove and use the AA~, SSS~, and SAS~ theorems to prove triangles are similar • Use similarity of right triangles to solve problems • Use the Side-Splitter Theorem and the Triangle Midsegment Theorem to find lengths of sides and segments of triangles • Use the Triangle-Angle-Bisector Theorem to find lengths of sides and segments of triangles
Topic 8 Right Triangles and Trigonometry	14 days	1. 8-1 Right Triangles and the Pythagorean Theorem 2. 8-2 Trig Ratios 3. 8-3 Law of Sines 4. 8-4 The Law of Cosines 5. 8-5 Problem Solving with Trigonometry	• G.SRT.B.3 • G.SRT.C.5.a • G.SRT.C.5.b • G.N.Q.A.1.a • G.N.Q.A.1.b • G.N.Q.A.1.c • G.SRT.C.4.a • G.SRT.C.4.b • G.SRT.C.5.c	• Prove the Pythagorean Theorem using similar right triangles • Understand and apply the relationships between side lengths in 45-45-90 and 30-60-90 triangles • Use trigonometric ratios and the Laws of Sines and Cosines to solve problems
Topic 9 Coordinate Geometry	8 days	1. 9-1 Polygons in the Coordinate Plane 2. 9-2 Proofs using	• G.GPE.A.1 • G.GPE.A.2 • G.GPE.A.3 • G.CO.C.9	• Use coordinate geometry to classify triangles and quadrilaterals on the coordinate plane • Solve problems involving triangles and polygons on the coordinate plane • Plan a method of proof using coordinate geometry

		Coordinate Geometry 3. 9-3 Circles in the Coordinate Plane		- Prove theorems using algebra and the coordinate plane - Write the equation for a circle given the graph of the circle or given the center and the radius of the circle - Graph a circle from its equation
Topic 10 Circles	2 day	1. 10-1 Arcs and Sectors	G.C.A.1	- Calculate the length of an arc when the central angle is given in degrees or radians - Calculate the area of sectors and segments of circles
Topic 11 Two- and Three-Dimensional Models	10 days	1. 11-2 Volumes of Prisms and Cylinders 2. 11-3 Volumes of Pyramids and Cones 3. 11-4 Spheres 4. TN-1 Surface Area	G.N.Q.A.1.a G.GMD.A.2 G.MG.A.1 G.N.Q.A.1.b G.N.Q.A.1.c G.GMD.A.1	- Model three-dimensional figures as cylinders, prisms, pyramids, and cones to solve problems - Calculate volumes and surface areas of spheres and composite figures - Calculate the surface area of three-dimensional figures
FOURTH QUARTER				
UNIT	PACING	TOPICS	STANDARDS	LEARNING OBJECTIVES
EOC reivew	16 days	TN Ready Review	TN Ready Geometry	Major Focus standards of TN Ready
Testing Window EOCs	12 days	End of Course Assessments	TN Ready Geometry	Major Focus standards of TN Ready
Topic Algebra 2	10 days	1. Transformation of Functions 2. Solving Equations and inequalities by graphing 3. Linear Systems	A2.F.IF.A.1 A2.A.CED.A.1 A2.A.REI.B.3	- For a function that models a relationship between two quantities, interpret key features of graphs - Create equations in one variable and use them to solve problems in a real world context - Write and solve a system of linear equations in a real world context
Review and Exams	5 days	Topics #1-12		