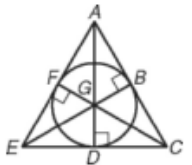




Mattawan Consolidated Schools Geometry Essential Standards Chart

Standard Description	Common Core Standard	Example of Rigor	Prerequisite Skills	When Taught?	Common Assessment	Extension Standards
What is the essential standard to be learned? Describe in student-friendly vocabulary.		What does proficient student work look like? Provide an example and/or description.	What prior knowledge, skills, and/or vocabulary is/are needed for a student to master this standard?	When will this standard be taught?	What assessment(s) will be used to measure student mastery?	What will we do when students have learned the essential standard(s)?
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.	G.CO.1	G.CO.1 Examples		Ch 1, Ch 3	Quiz and Test	
Use coordinates to prove simple geometric theorems algebraically.	G.GPE.4	G.GPE.4 Examples		Ch 1, Ch 4, Ch 6, Ch 11	Quiz and Test	

Create equations and inequalities in one variable and use them to solve problems.	A.CED.1	A.CED.1 Examples		Ch 1	Quiz and Test	
Use of examples and counterexamples to make logical arguments. Use examples and counterexamples.	CCSS.MATH.PRACTICE.MP3	CSS.MATH.PRACTICE.MP3 Examples	Understanding of math vocabulary and definitions.	Ch 2	Homework Group Work Formative Assessments Summative Assessments	Venn diagram problems Writing their own conditional statements
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.	G.CO.9	G.CO.9 Examples	Know the definition of parallel, congruent and supplementary	Ch 3, Ch 5	Homework Group Work Formative Assessments Summative Assessments	Using relationships between angle pairs, set up and solve a system of equations with two variables
Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric	G.GPE.5	G.GPE.5 Examples		Ch 3	Quiz and Test	

problems (e.g., find the equation of the line parallel or perpendicular to a given line that passes through a given point).						
Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence.	G.CO.8	G.CO.8 Examples	Understand properties of congruent polygons	Ch 4	Homework Group Work Formative Assessments Summative Assessments	Given: \overline{GB} , \overline{GD} , , and \overline{GF} are radii of the circle centered at G and are perpendicular to the sides of $\triangle UACE$ Prove: $\triangle UACE$ is equilateral. 
Prove (and apply) theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent, inequalities in one and two triangles, polygon sum	G.CO.10	G.CO.10 Examples	Linear pair theorem	Ch 4, Ch 5, Ch 6	Homework Group Work Formative Assessments Summative Assessments	Find the measure of each angle. 1. In $\triangle FGH$, the measure of $\angle H$ is 14° less than the measure of $\angle F$. The measure of $\angle G$ is 25° more than $2\frac{1}{3}$ times the measure of $\angle F$. Find $m\angle F$.

theorem.						
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.	G.CO.11	G.CO.11 Examples	Triangle congruence Proof reasoning	Ch 6	Homework Group Work Formative Assessments Summative Assessments	Extension proofs related to quadrilaterals that use composite figures
Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	G.SRT.5	G.SRT.5 Examples		Ch 7		
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.4	G.SRT.4 Examples		Ch 7		

<p>Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.</p>	<p>G.SRT.8</p>	<p>G.SRT.8 Examples</p>	<p>Pythagorean Theorem</p> <p>Solving equations involving fraction</p> <p>Definitions of acute, right and obtuse</p>	<p>Ch 8, Ch 5.8</p>	<p>Homework</p> <p>Group Work</p> <p>Formative Assessments</p> <p>Summative Assessments</p>	<p>A skyscraper stands between two school buildings. The two schools are 10 miles apart. From school A, the angle of elevation to the top of the skyscraper is 5°. From school B, the angle of elevation is 2°. What is the height of the skyscraper to the nearest foot?</p>
<p>Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles</p>	<p>G.SRT.11</p>	<p>G.SRT.11 Examples</p>		<p>Ch 8</p>		
<p>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.</p>	<p>G.SRT.6</p>	<p>G.SRT.6 Examples</p>	<p>Unit conversion</p> <p>Setting up and solving proportions</p>	<p>Ch 8</p>	<p>Homework</p> <p>Group Work</p> <p>Formative Assessments</p> <p>Summative Assessments</p>	<p>Given rectangle ABCD is similar to rectangle EFGH. The area of rectangle ABCD is 135 square inches. The area of rectangle EFGH is 240 square inches. The width of rectangle ABCD is 9 in, what is the length and width of rectangle EFGH.</p>

Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems	6.G.1	6.G.1 Examples		Ch 9		
Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.	G.GMD.3	G.GMD.3 Examples	Finding area Working with formulas Identifying the 3D figures Using appropriate measurements Setting up equations.	Ch 10	Homework Group Work Formative Assessments Summative Assessments	More complicated composite figures for surface area and volume
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	G.C.2	G.C.2 Examples		Ch 11		

angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.						
Find arc lengths and areas of sectors of circles. (+)	G.C.4	G.C.4 Examples	Circle area and circumference 360° in a circle	Ch 11	Homework Group Work Formative Assessments Summative Assessments	Introduction to radian measure Composite figures Segment areas
Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper. Specify a sequence of transformations that will carry a given figure onto another.	G.CO.5	G.CO.5 Examples	Cartesian plane knowledge	Ch 12	Homework Group Work Formative Assessments Summative Assessments	ç

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