Curriculum Map
Name of Teacher: Br. Hassan
Subject _Geometry_____

	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	
Unit Name or Theme	Unit1: Tools of Geometry Theme: Fundamentals of geometry	Unit1 Chapter 2: Reasoning & proofs Inductive reasoning Logic Conditional statements Deductive reasoning Paragraph proofs Algebraic Proofs	Theme1: Proofs line segment relationships and angle relationships Theme 2: Parallel lines and transversal.	Theme: Proofs on parallel lines, perpendicular lines. Perpendicular and distance.	Theme: Triangles, proofs about isosceles triangles, equilateral triangles.	Unit Name or Theme
Enduring Understandings and Performance Indicators	Students will be able to: -Identify and model points, lines, angles. -identify intersecting lines and planes. -Measure line segments -Find distance between two points and midpoint -Identify and classify angles -Identify congruent angles and angle bisector. -What are perpendicular lines, Parallel lines -Identify polygons and their area, perimeter -Identify polyherda and their volume and surface area.	SWBT: -Make a conjecture based on inductive reasoning & find counter example - Determine truth values of negations, conjunctions, disjunctions & use Venn Diagrams -Analyze statements in IF-THEN form, and write the converse, inverse, contrapostive of IF-THEN statements. -Use the law of detachment and law of syllogism -Identify & use basic postulates -write paragraph proofs -Use Algebra to write TWO-COLUMN proofs -Use properties of equality to write geometric proofs.	SWBT: Write proofs involving segment addition -Write proofs involving segment congruence -Write proofs involving supplementary and complementary angles. -Write proofs involving congruent and right angles -identify the relationships between two lines or two planes -Name angle pairs formed by parallel lines and transverse	SWBT: Use theorems to determine the relationships btw specific pairs of angles. -use Algebra to find angle measurements. -Find Slopes of lines -Identify if lines are parallel, perpendicular using slope. -Rate of change -Write an equation of a line given info about graph. -Find the distance btw a point and a line. -Find distance btw two parallel lines.	SWBT: -Tell different kind of triangles Equiangular Isosceles Equilateral Obtuse Acute Scalene -Understand theorem associated with Isoscels and equilateral triangles. -will apply isosceles theorem to problem solving. -will prove some theorems and related problems to isosceles and equilateral triangles -learn how to construct equilateral triangle. -will understand and use SSS and SAS	Enduring Understandings and Performance Indicators

Essential Questions	-How can we tell if lines segments are congruent, angles are congruent? -What are the regular polygons and ploy hedra? -What is a bisector? - When do we have perpendicular or parallel lines? What are the different types of angles?	What is induction reasoning? What are the element of a logical proof? How do we prove mathematical statements? What is deductive reasoning? How do we write a paragraph proof? How do we write a two-column proof? How do we approach a proof? What are the necessary steps?	How do we justify if lines segments are the same (congruent)? How do we use line segment congruence in construction, carpeting etc? How do we know if spread (angle) is congruent to another angle? How do we use angle congruence buildings construction? What steps we take to prove congruence of segments and angles?	How do we use parallel and transversal theorem for proofs? What is the difference btw converse theorems of pairs of angle (Parallel and transversal)? And the original theorem of pairs of angles (Parallel and Transversal)? How do we decide which theorem to use in which situation? How to use algebra to find measure of angles?	How tell different type of triangles? What are the characteristics of each category of triangles. How do we strategize to proof some essentials proof about isosceles triangles. What is a corollary? What is the intuition for SSS and SAS. How do use congruent triangles in problem solving.	Essential Questions
Activities/Content	-Measure lines segments in groups compare answers. -Construct line segment bisector using ruler and campus -Construct angle bisector -Make Platonic solid using hard paper. -Practice problem solving from the book (chosen problems)	Review worm ups Explain vocabulary for each lesson Define proof, theorem, postulate, axiom Compare and contracts theorem and postulate. Define Law of detachment and law of syllogism Filling the blank handout for two column proof	-Students practiced worm ups exercises for each lesson to get connection to next topic. -Students reflect understanding through doing practice examples for each concept using handouts (McGraw Hill) -Students interact 1-1 with teacher for lesson quiz at the end of each class -Students created study cards for theorems and essential postulates to carry out proofs. -Students come to board to summarize a lesson, concept. -Student do problems similar to ones done by teacher.	-Students practiced proofs similar to examples taught. -Students practiced handout to identify pairs of angles pertaining to parallel and transversal Students practiced end of lesson quiz. -Students summarized lessons. -Students played kahoot based on the concepts taught. -Students did worm up problem for each lesson.	-Students and teacher discussed SSS and SAS proofs -Students are let to get the steps to proof isosceles triangle thorem. -Students practiced problems similar to examples solved and explained by the teacher. -Student identified different kind of triangles using rubber band. -Students played Kahoot about SSS and SAS to drill the two concepts.	Activities/Content
Assessment Strategies Formative & Summative	-Exit tickets -Summary of lessons -Check understanding questions -Quiz -Homework	-Lesson quizzes at the end of each lesson ungraded. -Summary of lessons -Handouts for practice on the middle of a lesson Quizzes Homework Exam	-Lesson quizzes at the end of each lesson ungraded. -Handouts for more practice problems. -Handouts for practice examples -Quiz graded -Homework (google classroom) Using online resources Exam on the material	-Handouts for concept check -handouts for more practice on problem done in class. -Homework (Google classroom) -Take home test -Online graded homework(Connected)	Handouts for concept check -handouts for more practice on problems done in class. -Homework (Google classroom) -Quiz	Assessment Strategies Formative & Summative

Time Frame	3 weeks	4 weeks	4 weeks	4 weeks	4 weeks	Time Frame
Resources	-Book: Geometry Glencoe -NY Engage material	-Book: Geometry -Presentation: McGraw Hill teacher resources -Online material for handouts	-Presentations (lesson) -JMAP (Regents samples) -McGraw Hill teacher materials	-Presentations (lesson) -McGraw Hill teacher materials	Presentations (lesson) -McGraw Hill teacher materials	Resources
Textbook (Chapter/pages)	Chapter 1: Page 5, 14, 25, 36, 46, 56, 67	Chapter 2: Pages 91, 99, 107, 117, 127, 136	Chapter 2+3 Pages 144, 151, 173, 181	Pages: 173, 174, 188, 189, 198, 218	Pages: 246, 255, 264. 275,285	Textbook (Chapter/pages)

	FEBRUARY	**MARCH**	**APRIL**	**MAY**	**JUNE**	
Unit Name or Theme	Relationships in triangles: -Bisector of angles -Medians & Altitudes -Inequalities in one Triangle -Indirect proofs	Proportions and Similarity: -Ratios and proportions -similar figures -Parallel lines and proportional parts -Similarity transformations	Right angle trigonometry: -Geometric Mean -Pythagorean Theorem -Special right angles -Trigonometry -Law of sine and cosine -Angles of elevation and depression -Vectors	Topic A: Transformations and symmetry -Reflection -Rotation -Translation Topic B: Circles -Area and circumference of circles -Measuring angles and arcs -Arcs and chords -Inscribed angles -tangents -secants -equation of a circle	Areas of polygons -Area of parallelogram and triangles -Area of trapezoid, rhombus -Area of circles and sectors -Area of regular polygon -Area of similar figures -Final Exam review (Last week of may and june)	Unit Name or Theme

Enduring Understandings and Performance Indicators	Students will be able to: -Identify and use Altitudes in triangles -Identify and use medians in triangles -Recognize and apply properties of inequalities in triangles. -Write indirect algebraic proofs Write indirect geometric proofs -Identify and use perpendicular bisectors -Identify and use angles bisectors	SWBT: -Write ratios and solve problem using ratios. -Use proportions to identify similar figure (polygons meanly) -Identify similar triangles using AA, SAS, SSS similarity -Use similar triangles to problem solve -Use proportional parts within triangles -Use proportional parts with parallel lines -Identify similarity transformations -Verify similarity after a similarity transformation	SWBT: -Find geometric between two numbers -Solving problems using parts of right triangles (Altitude, legs, hypotenuse) -Use Pythagorean theorem to problem solve -Use the converse of Pythagorean theorem -Use 30-60-90 special right triangle -use 45-45-90 special right triangle -Find trig ratios using right triangles -Solve problem involving angles of depression or elevation -Find distance between two objects using angles of elevation and depression -Use laws sine/cosine to solve triangles. -Working with vectors	SWBT: -Draw reflections/rotation/translation in space -Draw reflection/rotation/translation in coordinate plane -Identify and use parts of circles -Solve problem involving circumference -Identify central angle, major and minor arcs and semicircles -Find arc lengths -Recognize and use relationship between arcs and chords and diameter -Find measures of inscribed angles. -Find measures of angles of inscribed polygons -Use properties of tangents -Solve problems involving circumscribed polygons -Find measures of angles formed by lines intersecting on or inside a circle. -Find measures of angles formed by lines intersecting outside the circle. -Find measures of segments that intersect in the interior of a circle. -Find measures of segments that intersect in the exterior of a circle. -Write the equation of a circle -Graph a circle on the coordinate plane.	SWBT: -Find perimeters and areas of parallelograms. -Find perimeters and areas of triangles. -Find areas of trapezoids. -Find areas of rhombi and kites. -Find areas of circles. -Find areas of sectors of circles. -Find areas of regular polygons. -Find areas of composite figures. -Find areas of similar figures by using scale factors. -Find scale factors or missing measures given the areas of similar figures.	Enduring Understandings and Performance Indicators

Essential Questions	-Why could a work triangle be useful in designing a kitchen? -At what point should a mobile be hung to be parallel to the ground? -Is the balancing point of a mobile always at its center? Why? -Which is the largest angle of the triangle in the picture? -Which is the longest side of the triangle? -What is the relationship between the largest angle and the longest side? -What question is used to prove that Friday is not a teacher work day? -Who provides the reason that Friday is not a teacher work day? -What could have proved directly that Friday is a teacher work day?	How can objects be similar? How does similarity in mathematics compare to similarity in real life?	At what vertical viewing angle should the camera be set to use the geometric mean to photograph an object? What measurements do you need to find the length of the tether? What are the measures of the angles in the two triangles formed by the altitude of the triangle? What ratio determines the percent of grade? What two rays form the angle of elevation? What values could you reasonably expect the angle of elevation to be? What method can be used to find the height of a tree?	What is another term used for reflection? In order to trick the eye into believing that the object is moving, what must be true of the figure itself? What things are rotating on the windmill? Human beings have what type of symmetry? What does the distance a rider travels in one rotation represent? The 13 stars of the Betsy Ross flag are equidistant from what point? What is the measure of one central angle of the embroidered snowflake? What kind of arc would the top of the doorway and a horizontal streamer form? What kind of arc would the top of the doorway and a horizontal streamer form? If a camera has a viewing angle of 50°, how much less of a viewing angle does the camera have compared to the average person's field of vision?	What are some of the figures that can be made from the puzzle? What other shapes are common for handbags? If a pizza is cut into eight wedge-shaped pieces of equal size, how many degrees is the angle made by one slice? How can you find the area of a table that is composed of 10 triangular parts? How tall is a building if the model is 2.5 feet tall and the scale factor is 12 feet to 1 inch?	Essential Questions
Activities/Content	-Students practiced indirect proofs similar to examples I taught. -Students practiced handout to identify Medians and altitudes. -Students practiced handouts to construct incenter, circumcenter, centroid, orthocenter. -Students summarized lessons. -Students did worm up problem for each lesson. -Students watched videos on how to construct 4 different centers and difference btw them.	-Students Read the material on their own and practiced guided practice for each section. -Students instructed to watch videos about identifying similar polygon. -Students instructed to watch a video about using proportional parts in problem solving -Students interact in online classroom for each subtopic mentioned above.	-Students read the material before class. -Students practice similar problems used in class. -Students instructed to watch video about vectors (how to add vector, subtract vectors). -Students interact in classroom with teacher questions to show understanding.	-Students read the material before class. -Students practice similar problems used in class. -Students interact in classroom with teacher questions to show understanding. -Student watch videos about how to draw rotation, translation, reflection -Students asked to do before class a handout intro to lessons	-Students read the material before class. -Students practice similar problems used in class. -Students interact in classroom with teacher questions to show understanding.	Activities/Content

Assessments (Formative and Summative)	-Exam -Homework -Quiz -Class quick quizzes (participation) teacher monitors class going around and helping students individually and checking understanding.	-Exam -Homework -quiz -Questions in online meeting -Go over previous concept to check understanding	-Homework -quiz -Questions in online meeting -Check understanding by going over previous topic	-Homework -Exam -Questions in online meeting -Check understanding by going over previous topic	-One on one quiz (oral about areas) -Homework -Questions in online meeting -Check understanding by going over previous topic -Final Exam	Assessments (Formative and Summative)
Textbook (Chapters/pages)	Chapter 5: Pages: 324, 335, 344, 355	Chapter 7: Pages: 461, 469, 478, 490, 511	Chapter 8: Pages: 537, 547, 559, 568, 580, 588, 600	Chapter 9, 10 Pages for chapter 9: 623, 633, 641,651 Pages for chapter 10: 697, 706, 715, 723, 732, 741, 750, 757	Chapter 11 Pages 779 - 819	Textbooks (Chapters/pages)
Resources	-Presentations (lesson) -McGraw Hill teacher materials -Handouts -JMAP problems for regents	-Presentations (lesson)/book -McGraw Hill teacher materials -Handouts	-Presentation(lesson)/book -McGraw Hill teacher materials -handouts.	-Presentation(lesson)/book -McGraw Hill teacher materials -handouts.	-Presentation(lesson)/book -McGraw Hill teacher materials -handouts.	Resources