

MIDDLE SCHOOL GEOMETRY CURRICULUM MAP 2007-08

UNITS OF STUDY	STANDARDS, BENCHMARKS, GLCES OR HSCES	BIG IDEAS / KEY CONCEPTS	ASSESSMENTS		LEARNING STRATEGIES <i>Skills</i>	CONTENT ACTIVITIES <i>Knowledge</i>	VOCABULARY	INSTRUCTIONAL RESOURCES
			FOR LEARNING <i>(Formative)</i>	OF LEARNING <i>(Summative)</i>				
	1 <sup>st</sup> Trimester							Textbook: Geometry: Integration, Applications, and Connections – Glencoe; 2001
<b>UNIT 1</b> <i>Introduction</i>  10 days	G1.1.1 Solve multi-step problems and construct proofs involving vertical angles, linear pairs of angles, supplementary angles, complementary angles, and right angles.	Angle Relationships	Homework Practice Quizzes	End of Term Assessment	Find angle measures using given drawings	Understand complementary angles are equal to 90°, and supplementary angles are equal to 180°	Complementary Angles  Linear Pair	Chapter 2; Section 1 – 6 Pages: 68 – 115  Geo Sketch Pad
	G1.1.5 Given a line segment in terms of its endpoints in the coordinate plane, determine its length and midpoint.	Midpoint and Distance of Line Segments	Homework Practice Quizzes	End of Term Assessment	Use formulas to find midpoint and length of segment	Determine supplementary and vertical angles given a drawing  Find length and midpoint of segment on coordinate plane	Supplementary Angles  Vertical Angles	Chapter 3; Section 1 – 2 Pages: 124 – 131
	G1.1.6 Recognize Euclidean geometry as an axiom system. Know the key axioms and understand the meaning of and distinguish between undefined terms (e.g., point, line, and plane), axioms, definitions, and theorems.	Definition of Euclidean Geometry	Homework Practice Quizzes	End of Term Assessment	Define Euclidean Geometry	Understand the components of Euclidean Geometry	Euclidean Geometry Axioms Theorems	Chapter 1; Section 2 Pages: 12 – 18
<b>UNIT 2</b> <i>Conversions</i>  2 – 3 days	L3.1.1 Convert units of measurement within and between systems; explain how arithmetic operations on measurements affect units, and carry units through calculations correctly.	Application of Measurements	Homework Practice Quizzes	End of Term Assessment	Identify different measurements in the metric and customary systems  Transfer between units in the same system and related systems	Convert units of measurements	Metric Units Customary Units	Supplemented Resources
<b>UNIT 3</b> <i>Geometry Proof Foundations And Logical Reasoning</i>  11 days	L4.1.1 Distinguish between inductive and deductive reasoning, identifying and providing examples of each.	Process of Discovery	Homework Practice Quizzes	End of Term Assessment	List everyday activities that are acquired and learned through repetition Pattern sequencing Reasoning in an orderly fashion	Identify and apply inductive reasoning to situations Process of organizing information Certain statements follow logically	Inductive Reasoning Trial and Error	Chapter 2; Section 1 – 6 Pages: 68 – 115
	L4.1.2 Differentiate between statistical arguments (statements verified empirically using examples or data) and logical arguments based on rules of logic.	Deductive Structure	Homework Practice Quizzes	End of Term Assessment	Syllogisms – If A, then B Construct logical arguments	Apply deductive reasoning based on proven facts Understand the structure of a formal argument	Deductive Reasoning  Syllogism “If..., then.” Statements	Chapter 2; Section 2 Pages: 76

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	L4.1.3 Define and explain the roles of axioms (postulates), definitions, theorems, counterexamples, and proofs in the logical structure of mathematics. Identify and give examples of each.	Postulates vs Theorems Flowchart Truth without Proof	Homework Practice Quizzes	End of Term Assessment	Presentation of expected truths Postulate (empirically) Theorem (deductively) Definition: If statement, and converse true	Write "if...., then...." statements Sort out postulates	Definition Theorem Axiom Postulate	Chapter 2; Section 2 Pages: 76
	L4.2.1 Know and use the terms of basic logic (e.g., proposition, negation, truth and falsity, implication, if and only if, contrapositive, and converse).	If...., then.... Statements	Homework Practice Quizzes	End of Term Assessment	Write truth tables, "if...., then....", inverse, converse, and contrapositive statements Write two column proofs	Create a Venn Diagram	Converse, Inverse, and Contrapositive	Chapter 2; Section 2 Pages: 76
	L4.2.2 Use the connectives "not", "and", "or", and "if...., then," in mathematical and everyday settings. Know the truth table of each connective and how to logically negate statements involving these connectives.	Negations	Homework Practice Quizzes	End of Term Assessment	Write proofs by contradiction Write indirect proofs Logic Truth Tables	Formulate a truth table	Nor, And, Or Conjunction	Chapter 2; Section 2 Pages: 76
	L4.2.3 Use the quantifiers "there exists" and "all" in mathematical and everyday settings and know how to logically negate statements involving them.	Sometimes true Always true Never true	Homework Practice Quizzes	End of Term Assessment	English – Logic: GIGO	Formulate a truth table	"Garbage in, garbage out"	Chapter 2; Section 2 Pages: 76
	L4.2.4 Write the converse, inverse, and contrapositive of an "If...., then...." Statement. Use the fact, in mathematical and everyday settings, that the contrapositive is logically equivalent to the original while the inverse and converse are not.	Converse, Inverse, and Contrapositive	Homework Practice Quizzes	End of Term Assessment	Truth Tables  Create and write if...., then...statements in converse, inverse, and contrapositive forms	Formulate a truth table  Know how to write a statement in If...., then....form in converse, inverse, and contrapositive forms	Inverse Converse Contrapositive	Chapter 1; Section 7 – 8 Pages: 39 – 48
	L4.3.1 Know the basic structure for the proof of an "If...., then...." Statement (assuming the hypothesis and ending with the conclusion) and that proving the contrapositive is equivalent.	Parts of a Proof	Homework Practice Quizzes	End of Term Assessment	Identify Hypothesis and Conclusion	Students create own examples	Hypothesis Conclusion	Chapter 2; Section 2 – 3 Pages: 76 – 91

	L4.3.2 Construct proofs by contradiction. Use counterexamples, when appropriate, to disprove a statement.	Indirect Proof	Homework Practice Quizzes	End of Term Assessment	Show examples using "but"	Understand how indirect proofs work	Indirect Contradiction	Chapter 5; Section 3 Pages: 252 – 258
	L4.3.3 Explain the difference between a necessary and a sufficient condition within the statement of a theorem. Determine the correct conclusions based on interpreting a theorem in which necessary or sufficient conditions in the theorem or hypothesis are satisfied.	Necessary and Extraneous Information	Homework Practice Quizzes	End of Term Assessment	Sorting out what we need and what we don't, and deciding when we have enough	Take a look at situations and develop a good question and answer, and determine if enough information is present	Extraneous Necessary Sufficient	Chapter 4; Section 3 – 4 Pages: 196 – 206
	G1.2.2 Construct and justify arguments and solve multi-step problems involving angle measure, side length, perimeter, and area of all types of triangles.	Using Algebra with Triangles and Quadrilaterals	Homework Practice Quizzes	End of Term Assessment	Develop arguments for multi-step problems with angle measure, side length, perimeter, and area for all types of triangles	Construct arguments for triangles and quadrilaterals	Area Perimeter Angle Measure Side	Chapter 10; Section 4 Pages: 535
<b>UNIT 4</b> <i>Line and Angle Proofs and Properties</i>  11 days	G1.1.2 Solve multi-step problems and construct proofs involving corresponding angles, alternate interior angles, alternate exterior angles, and same-side (consecutive) interior angles.	Parallel Lines and Transversals	Homework Practice Quizzes	End of Term Assessment	Find angles measures with parallel, perpendicular, or two intersecting lines  Student groups highlight pieces they know to be congruent  Bisect an angle and line	Recognize vertical angles are equal	Alternate Interior Angles Alternate Exterior Angles Consecutive Angles	Chapter 3; Section 1 – 2 Pages: 124 – 131  Chapter 3; Section 4 Pages: 146 – 150  Geo Sketch Pad
	G1.1.3 Perform and justify constructions, including midpoint of a line segment and bisector of an angle, using straightedge and compass.	Introduction to Geometry Constructions	Homework Practice Quizzes	End of Term Assessment	Construction using compass and straight edge  Use the midpoint and distance formula on a number line and/or coordinate plane	Know perpendicular angles form 90° angles	Midpoint	Pages: 39 and 47 – 48
	G1.1.4 Given a line and a point, construct a line through the point that is parallel to the original line using straightedge and compass. Given a line and a point, construct a line through the point that is perpendicular to the original line. Justify the steps of the constructions.	Constructing Parallel and Perpendicular Lines	Homework Practice Quizzes	End of Term Assessment	Determine the perpendicular bisector	Recognize parallel lines will not intersect	Perpendicular	Chapter 3; Section 4 Pages: 146 – 150

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	G1.1.5 Given a line segment in terms of its endpoints in the coordinate plane, determine its length and midpoint.	Midpoint and Distance of Line Segments	Homework Practice Quizzes	End of Term Assessment	Students discover midpoint is $\frac{1}{2}$ way and then develop formula  Use distance formula	Understand the midpoint of a line divides it equally  Determine the length and midpoint of a line segment	Length of Segment Midpoint	Chapter 1; Section 4 – 5 Pages: 28 – 37
	G1.1.6 Recognize Euclidean geometry as an axiom system. Know the key axioms and understand the meaning of and distinguish between undefined terms (e.g., point, line, and plane), axioms, definitions, and theorems.	Definition of Euclidean Geometry	Homework Practice Quizzes	End of Term Assessment	Discuss difference between points, lines, and planes	Students develop drawings related to real-life situations	Line Point Plane	Chapter 1 Pages: 6 – 52
<b>UNIT 5</b> <i>Triangle Congruence Proofs and Properties</i>  20 days	G1.2.1 Prove that the angle sum of a triangle is $180^\circ$ and that an exterior angle of a triangle is the sum of the two remote interior angles.	Triangle Congruence	Homework Practice Quizzes	End of Term Assessment	Discovery from multiple exercises	Calculate interior and exterior angles	Remote Interior Angles Exterior Angles	Chapter 4; Section 2 Pages: 189
	G1.2.2 Construct and justify arguments and solve multi-step problems involving angle measure, side length, perimeter, and area of all types of triangles.	Triangle Congruence	Homework Practice Quizzes	End of Term Assessment	Prove line segments are congruent Prove angles are congruent Prove triangles are congruent	Demonstrate understanding of angles relationships within triangles	Area Perimeter	Chapter 10; Section 4 Pages: 535
	G1.2.3 Know a proof of the Pythagorean Theorem and use the Pythagorean Theorem and its converse to solve multi-step problems.	Angle Relationships	Homework Practice Quizzes	End of Term Assessment	Present formula for students to apply and practice  Formulate relationships of parts of triangles	Find lengths of sides of right triangles	Pythagorean Theorem	Chapter 8; Section 1 Pages: 397 – 403
	G2.3.1 Prove that triangles are congruent using the SSS, SAS, ASA, and AAS criteria and that right triangles are congruent using the hypotenuse-leg criterion.	Using Algebra with Triangles	Homework Practice Quizzes	End of Term Assessment	Present proofs to group of students; work to develop their own proof to present	Understand structure of a formal argument	SSS, AAA, SAS, SAS, AAS	Chapter 4; Section 4 – 6 Pages: 206 – 226  Chapter 5; Section 2 Pages: 247
	G2.3.2 Use theorems about congruent triangles to prove additional theorems and solve problems, with and without use of coordinates.	Pythagorean Theorem	Homework Practice Quizzes	End of Term Assessment	Classify triangles by sides and angles	Understand types of triangles	Congruence	Chapter 4; Section 6 Pages: 222 – 227

2 <sup>nd</sup> Trimester								
<b>UNIT 6</b> <i>Quadrilateral Proofs and Properties</i> 10 days	G1.4.1 Solve multi-step problems and construct proofs involving angle measure, side lengths, diagonal length, perimeter, and area of squares, rectangles, parallelograms, kites, and trapezoids.	Hierarchy of Quadrilaterals	Homework Practice Quizzes	End of Term Assessment	Classify quadrilaterals by diagonal length and side	Understand and use properties of quadrilaterals	Kite Rhombus Rectangle Parallelogram Diagonal Slope	Chapter 6; Section 1 – 5 Pages 291 – 333  Chapter 10; Section 3 – 4 Pages: 529 – 541
	G1.4.2 Solve multi-step problems and construct proofs involving quadrilaterals (e.g., prove that the diagonals of a rhombus are perpendicular) using Euclidean methods or coordinate geometry.	Hierarchy of Quadrilaterals	Homework Practice Quizzes	End of Term Assessment	Use properties of quadrilaterals and mathematical evidence to classify quadrilaterals	Prove classification of quadrilaterals	Kite Rhombus Rectangle Parallelogram Diagonal Slope	Chapter 6 Pages 291 – 328
	G1.4.3 Describe and justify hierarchical relationships among quadrilaterals (e.g., every rectangle is a parallelogram).	Hierarchy of Quadrilaterals	Homework Practice Quizzes	End of Term Assessment	Use properties of quadrilaterals and mathematical evidence to classify quadrilaterals	Prove classification of quadrilaterals	Kite Rhombus Rectangle Parallelogram Diagonal Slope	Chapter 6; Section 1 – 5 Pages 291 – 328
	G1.4.4 Prove theorems about the interior and exterior angles sums of a quadrilateral.	Angle Relationships	Homework Practice Quizzes	End of Term Assessment	Use interior angle formula to find missing angle	Understand the relationship of angles	Interior Angle Exterior Angle	
<b>UNIT 7</b> <i>Area and Volume of Two-dimensional and Three-dimensional Figures</i> 10 days	G1.5.1 Know and use subdivision or circumscription methods to find areas of polygons (e.g., regular octagon, non-regular pentagon).	Angle Sums of All Polygons	Homework Practice Quizzes	End of Term Assessment	Find areas of polygons	Apply area formulas	Apothem	Chapter 10; Section 3 – 5 Pages 543 – 550
	G1.5.2 Know, justify, and use formulas for the perimeter and area of a regular $n$ -gon and formulas to find interior and exterior angles of a regular $n$ -gon and their sums.	Angle Relationships of Polygons	Homework Practice Quizzes	End of Term Assessment	Find areas of polygons	Apply area formulas		Chapter 10; Section 1 Pages 514 – 521
	G2.1.1 Know and demonstrate the relationships between the area formula of a triangle, the area formula of a parallelogram, and the area formula of a trapezoid.	Area Formulas of Polygons	Homework Practice Quizzes	End of Term Assessment	Break apart quadrilaterals into triangles	Ability to relate quadrilaterals to triangles		

	G2.1.2 Know and demonstrate the relationships between the area formulas of various quadrilaterals (e.g., explain how to find the area of a trapezoid based on the areas of parallelograms and triangles).	Area Formula Relationships  Area Sum Postulate	Homework Practice Quizzes	End of Term Assessment	Break apart quadrilaterals into triangles  Discover shapes and their relationships with their subshapes	Ability to relate quadrilaterals to triangles  Identify shape, base, height  State formulas and explain relationships between figures using area sum postulate	Area Base Altitude Height Area Sum Postulate	Chapter 10; Section 3 – 4 Pages 529 – 541
	G2.1.3 Know and use the relationship between the volumes of pyramids and prisms (of equal base and height) and cones and cylinders (of equal base and height).	Volume Formula Relationships	Homework Practice Quizzes	End of Term Assessment	Use volume formulas to find volume of polygons  Demonstrate use of formulas for corresponding shapes  Relate area and volume	Understand volume relationships  Know and use the relationships between volumes	Volume Cross Section	Chapter 11; Section 5 – 6 Pages 607 – 620
	G1.8.1 Solve multi-step problems involving surface area and volume of pyramids, prisms, cones, cylinders, hemispheres, and spheres.	Using Formulas to find Surface Area And Volume	Homework Practice Quizzes	End of Term Assessment	Demonstrate calculations of surface area  Solve multi-step problems involving surface area and volume	Calculate surface area  Identify shapes and their parts  Use surface area and volume formulas	Surface Area Volume Sphere	Chapter 11; Section 3 – 7 Pages 591 – 628
	G1.8.2 Identify symmetries of pyramids, prisms, cones, cylinders, hemispheres, and spheres.	Symmetries	Homework Practice Quizzes	End of Term Assessment	Model through cross sections and slices of solids	Identify shapes of three-dimensional figures	Solid Symmetry	Chapter 11; Section 1 Pages 574 – 581
	G2.2.1 Identify or sketch a possible three-dimensional figure, given two-dimensional views (e.g., nets, multiple views). Create a two-dimensional representation of a three-dimensional figure.	Understanding Perspectives of Nets	Homework Practice Quizzes	End of Term Assessment	Using isometric dot paper, demonstrate drawing 3-D figures  Display examples of 3-D shapes	Ability to draw various views of 3-D figures  Draw nets	View Nets Corner View Perspective View Face Edge Vertices	Chapter 11; Section 1 – 2 Pages 575 – 589
	G2.2.2 Identify or sketch cross sections of three-dimensional figures. Identify or sketch solids formed by revolving two-dimensional figures around lines.	Cross Sections	Homework Practice Quizzes	End of Term Assessment	Create cross sections of 3-D figures	Identify and sketch solids based on 2-D figures around a line	Cross Section	Chapter 11 Pages 574
<b>UNIT 8</b> <i>Triangle and Figure Similarities Proofs and Properties</i>  10 days	G1.2.5 Solve multi-step problems and construct proofs about the properties of medians, altitudes, and perpendicular bisectors to the sides of a triangle, and the angle bisectors of a triangle. Using a straightedge and compass, construct these lines.	Medians, Altitudes, Perpendicular Bisectors, and Constructions	Homework Practice Quizzes	End of Term Assessment	Present the difference between median, angle bisector, and perpendicular bisector  Prove triangles are similar  Solve for parts of similar triangles	Construct a formal argument for triangles  Identify medians, altitudes, and perpendicular bisectors	Altitude Angles Bisector Bisector Median Perpendicular	Chapter 5; Section 1 Pages 239
	G2.3.3 Prove that triangles are similar by using SSS, SAS, and AAA conditions for similarity.	Types of Triangle Similarity	Homework Practice Quizzes	End of Term Assessment	Solve for parts of similar triangles	Prove triangles are similar	Definitions of SSS, AAA, SAS	Chapter 7; Section 3 – 4 Pages 354 – 368

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	G2.3.4 Use theorems about similar triangles to solve problems with and without use of coordinates.	Types of Triangle Similarity	Homework Practice Quizzes	End of Term Assessment	Give examples	Using triangles, find missing sides	Similarity	Chapter 7; Section 2 – 3 Pages 346 – 361  Chapter 7; Section 5 Pages 370 – 377  Chapter 8; Section 1 Pages 397 – 404
	G2.3.5 Know and apply the theorem stating that the effect of a scale factor of $k$ relating one two-dimensional figure to another or one three-dimensional figure to another, on the length, area, and volume of the figures is to multiply each by $k$ , $k^2$ , and $k^3$ , respectively.	Scale Factor	Homework Practice Quizzes	End of Term Assessment	Draw figures on coordinate plane and use formulas to enlarge and reduce figures	Students produce scale drawings	Scale Factor	Chapter 7; Section 1 – 2 Pages 338 – 351  Chapter 13; Section 8 Pages 746 – 752  Need to supplement scale factor for 3-D figures
<b>UNIT 9</b> <i>Triangle Trigonometry</i>  8 days	L1.1.6 Explain the importance of the irrational numbers $\sqrt{2}$ and $\sqrt{3}$ in basic right triangle trigonometry, the importance of $\pi$ (pi) because of its role in circle relationships, and the role of $e$ in applications such as continuously compounded interest ( $e$ is not applicable).	Right Triangle Trigonometry	Homework Practice Quizzes	End of Term Assessment	Provide examples of right triangles with certain angle measures  Find area and circumference of circles using pi  Work with irrational numbers	Know how to simplify radicals and use pi with circles  Ability to work with irrational numbers in various situations	Special Right Triangle Circles Imaginary Irrational Rational Real	Chapter 8; Section 2 Pages 405 – 411  Chapter 10; Section 5 Pages 543 – 549
	L2.1.6 Recognize when exact answers aren't always possible or practical. Use appropriate algorithms to approximate solutions to equations (e.g., to approximate square roots).	Simplifying Radicals	Homework Practice Quizzes	End of Term Assessment	Work with special right triangles	Know and use radicals for length in special right triangles	Radical	Chapter 8; Section 2 Pages 405 – 411.
	G1.2.3 Know a proof of the Pythagorean Theorem and use the Pythagorean Theorem and its converse to solve multi-step problems.	Pythagorean Theorem	Homework Practice Quizzes	End of Term Assessment	Given a triangle, find the area of the squares on each side of the right triangle	Use the Pythagorean Theorem to find sides of right triangles	Pythagorean Theorem	Chapter 8; Section 1 Pages 397 – 403
	G1.2.4 Prove and use the relationships among the side lengths and the angles of $30^\circ - 60^\circ - 90^\circ$ triangles and $45^\circ - 45^\circ - 90^\circ$ triangles.	Special Right Triangles	Homework Practice Quizzes	End of Term Assessment	Use the Pythagorean Theorem to derive the formulas for finding the sides of special right triangles	Know how to find lengths of sides of special right triangles		Chapter 8; Section 2 Pages 405 – 411
	G1.3.1 Define the sine, cosine, and tangent of acute angles in a right triangle as ratios of sides. Solve problems about angles, side lengths, or areas using trigonometric ratios in right triangles.	Triangle Ratios with and without Right Triangles	Homework Practice Quizzes	End of Term Assessment	Given right triangles, set up equations using the trig ratios	Find missing parts of right triangles	Sine Cosine Tangent Trigonometry	Chapter 8; Section 3 – 4 Pages 412
	G1.3.2 Know and use the Law of Sines and the Law of Cosines and use them to solve problems. Find the area of a triangle with sides $a$ and $b$ and included angle $\theta$ using the formula $\text{Area} = (1/2) a b \sin \theta$ . (Theta ( $\theta$ ) is not applicable)	Trigonometric Ratios	Homework Practice Quizzes	End of Term Assessment	Explain formulas for non-right triangles	Ability to find the missing sides and lengths of non-right triangles	Law of Sines Law of Cosines	Chapter 8; Section 5 – 6 Pages 426 – 436

	G1.3.3 Determine the exact values of sine, cosine, and tangent of $0^\circ$ , $30^\circ$ , $45^\circ$ , $60^\circ$ , and their integer multiples and apply in various contexts.	Right Triangles and Special Right Triangles	Homework Practice Quizzes	End of Term Assessment	Use calculations	Ability to use a TI-83 calculator to find sine, cosine, and tangent of angles	Sine Cosine Tangent	Chapter 8; Section 2 – 4 Pages 405 – 425
<b>UNIT 10</b> <i>Circle Proofs and Properties</i> 12 days	G1.6.2 Solve problems and justify arguments about chords (e.g., if a line through the center of a circle is perpendicular to a chord, it bisects the chord) and lines tangent to circles (e.g., a line tangent to a circle is perpendicular to the radius drawn to the point of tangency).	Special Segments of Circles	Homework Practice Quizzes	End of Term Assessment	Find length and angle measurements Solve for segment lengths Understand the relationship between circumference and perimeter	Apply properties of circles to solve for unknown parts Calculate circumference and area of circles using pi	Chord Radius Tangent Secant Circle	Chapter 9; Section 3 Pages 459 – 464  Chapter 9; Section 5 – 7 Pages 475 – 492
	G1.6.3 Solve problems and justify arguments about central angles, inscribed angles, and triangles in circles.	Angles within Circles	Homework Practice Quizzes	End of Term Assessment	Use a protractor to show relationship between arc degrees and angle degrees	Find measure of central angles and inscribed angles in circles	Inscribed Angles Central Angle	Chapter 9; Section 2 & 4 Pages 452 – 458, 466 – 472
	G1.6.4 Know and use properties of arcs and sectors and find lengths of arcs and areas of sectors.	Arcs and Sectors	Homework Practice Quizzes	End of Term Assessment	Explain properties of arcs and sectors	Understand and use properties of arcs and sectors and find their lengths	Sectors Arcs	Chapter 9; Section 3 Pages 459 – 464  Chapter 10; Section 6 Pages 551 – 556
<b>UNIT 11</b> <i>Transformations</i> 2-3 days	G3.1.1 Define reflection, rotation, translation, and glide reflection and find the image of a figure under an image of a figure under a given isometry.	Transformations	Homework Practice Quizzes	End of Term Assessment	Demonstrate a glide as a translation and reflection across a line	Understand how to slide and turn a figure	Reflection Rotation Glide	Chapter 13; Section 5 – 7 Pages: 722 – 745
	G3.1.2 Given two figures that are images of each other under an isometry, find the isometry and describe it completely.	Transformation with Dilations	Homework Practice Quizzes	End of Term Assessment	Understand the definition and use of dilation	Ability to enlarge and reduce the size of a figure	Isometric Dilation	Chapter 13; Section 4 Pages 715 – 721
	G3.1.3 Find the image of a figure under the composition of two or more isometries and determine whether the resulting figure is a reflection, rotation, translation, or glide reflection image of the original figure.	Formulas to find Transformations/ Drawing Translations on Coordinate Plane	Homework Practice Quizzes	End of Term Assessment	Draw pre-images and images of all transformations	Show the placement of a figure on a coordinate plane depending on the translation	Transformation	Chapter 13; Section 5 – 7 Pages 722 – 745
	G3.2.1 Know the definition of dilation and find the image of a figure under a given dilation.	Dilation	Homework Practice Quizzes	End of Term Assessment	Give formulas to increase and decrease the size of a figure	Ability to enlarge or reduce the size of a figure	Dilation	Chapter 13; Section 8 Pages 746 – 753

	G3.2.2 Given two figures that are images of each other under some dilation, identify the center and magnitude of the dilation.	Center and Magnitude Dilation	Homework Practice Quizzes	End of Term Assessment	Given two figures that are images of each other under some dilation, identify the center and magnitude of the dilation	Find center and magnitude of a dilation	Magnitude Center of Dilation	Chapter 13; Section 8 Pages 746 – 753
2 <sup>nd</sup> Trimester  UNIT 12  Vectors  1-2 days	L1.2.3 Use vectors to represent quantities that have magnitude and direction, interpret direction and magnitude of a vector numerically, and calculate the sum and difference of two vectors.	Vectors	Homework Practice Quizzes	End of Term Assessment	Explain and use vectors	Use vectors to represent quantities that have magnitude and direction  Calculate the sum and difference of two vectors	Direction Magnitude Resultant Scale Multiplication Standard Position Vector	Chapter 12; Section 5 Pages 673 – 678  Chapter 13; Section 5 – 7 Pages 722 – 745
Recommended :	G1.4.5 Understand the definition of a cyclic quadrilateral and know and use the basic properties of cyclic quadrilaterals.  G3.2.3 Find the image of a figure under the composition of a dilation and an isometry.				* For all Sections: First explain vocabulary to students, then let students see the definitions in the textbook. Students will become more responsible for understanding the vocabulary given to them.			