

Passkey Geometry

VA SOL Lesson Correlation

G.1 The student will construct/judge validity of logical argument consisting of a set of premises and conclusion. Including

a. identifying the converse, inverse, and contrapositive of a conditional statement;

M13134-If-Then Statements

M13134B-If-Then Statements – Part B “New”

b. translating a short verbal argument into symbolic form;

M13134-If-Then Statements

M13134B-If-Then Statements – Part B “New”

c. using Venn diagrams to represent set relationships; and

M1501-1-Sets Part A

M1501-2-Sets Part B

M13152-Venn Diagrams - Logic and Reasoning “New”

d. using deductive reasoning, including the law of syllogism.

M13133-Using Deductive Reasoning

M13134-If-Then Statements

M13134B-If-Then Statements – Part B “New”

M13136-Formalizing Proof

G.2 The student will use pictorial representations to solve problems involving symmetry and transformation. This will include

a. investigating and using formulas for finding distance, midpoint, and slope;

M1344B-1-Slope Part A

M1344B-2-Slope Part B

M1345-1-Finding the Slope of a Line Part A

M1345-2-Finding the Slope of a Line Part B

M1346-1-Three-Dimensional Coordinate Systems Part A

M1346-2-Three-Dimensional Coordinate Systems Part B

M13103-1-Segment Relationships Part A

M13103-2-Segment Relationships Part B

M13136-Formalizing Proof

M1514-1-Trigonometric Functions of Acute and Quadrantal Angles Part A

M1514-2-Trigonometric Functions of Acute and Quadrantal Angles Part B

b. investigating symmetry and determining whether a figure is symmetric with respect to a line or a point; and

M13118-1-Transformations Part A

M13118-2-Transformations Part B

M13123-Dilations, Translations, and Reflections

c. determining whether a figure has been translated, reflected, or rotated.

M13118-1-Transformations Part A

M13118-2-Transformations Part B

M13123-Dilations, Translations, and Reflections

G.3 The student will solve practical problems involving complementary, supplementary, and congruent angles.

M13102-Understanding Basic Geometric Terms II

M13105-1-Solving Problems With Intersecting and Parallel Lines Part A

M13105-2-Solving Problems With Intersecting and Parallel Lines Part B

M13136-Formalizing Proof

G.4 The student will use the relationships between angles to determine if two lines are parallel and verify, using proofs.

M13136-Formalizing Proof

G.5 The student will

a. investigate and identify congruence and similarity relationships between triangles; and

M11150-1-Geometric Figures and Solids Part A

M11150-2-Geometric Figures and Solids Part B

M13111-1-Solving Problems With Congruent Triangles Part A

M13111-2-Solving Problems With Congruent Triangles Part B

M13113-Solving Problems With Similar Triangles

b. prove triangles are congruent/similar, given information in a figure/statement, using algebraic/coordinate/deductive proofs.

M13111-1-Solving Problems With Congruent Triangles Part A

M13111-2-Solving Problems With Congruent Triangles Part B

M13113-Solving Problems With Similar Triangles

M13114-1-Inequalities of Triangles Part A

M13114-2-Inequalities of Triangles Part B

G.6 The student will apply triangle inequality properties to determine whether a triangle exists and to order sides and angles.

M13114-1-Inequalities of Triangles Part A (New)

M13114-2-Inequalities of Triangles Part B (New)

G.7 The student will solve practical problems involving right triangles by using the Pythagorean Theorem, etc.

M13115-Solving Problems Using the Pythagorean Theorem

M13116-1-Special Right Triangles Part A (New)

M13116-2-Special Right Triangles Part B (New)

G.8 The student will

a. investigate and identify properties of quadrilaterals involving opposite/consecutive sides and angles and diagonals;

M13117-1-Quadrilaterals Part A (New)

M13117-2-Quadrilaterals Part B (New)

b. prove these properties of quadrilaterals, using algebraic and coordinate methods as well as deductive reasoning; and

M13117-1-Quadrilaterals Part A (New)

M13117-2-Quadrilaterals Part B (New)

M13136-Formalizing Proof

c. use properties of quadrilaterals to solve practical problems.

M13117-1-Quadrilaterals Part A (New)

M13117-2-Quadrilaterals Part B (New)

G.9 The student will use measures of interior and exterior angles of polygons to solve problems.

M11150B-Geometric Figures and Solids – Part B “New”

M13118-1-Transformations Part A (New)

M13118-2-Transformations Part B (New)

G.10 The student will investigate and solve problems involving circles, using properties of angles/arcs/chords/tangents/secants.

M11155-Finding the Circumference of a Circle

M13119-1-Circle Relationships Part A

M13119-2-Circle Relationships Part B (New)

M1513-Measuring Angles, Arcs, and Sectors

G.13 The student will use formulas for surface area and volume of three-dimensional objects to solve practical problems.

M11157-Nets and Surface Area

M13122-1Surface Area of Solids

M13122-2-Surface Area of Solids Part B (New)

M13127-Finding the Volume of Geometric Solids

G.14 The student will

a. use proportional reasoning to solve practical problems, given similar geometric objects; and

M11150-Geometric Figures and Solids

M11150B-Geometric Figures and Solids Part B (New)

M13113-Solving Problems With Similar Triangles

b. determine how changes in one dimension of an object affect area and/or volume of the object.

M11154-Finding the Area of Geometric Figures

M11156-Finding the Volume of a Rectangular Prism

M11157-Nets and Surface Area

M13127-Finding the Volume of Geometric Solids

Passkey Levels

Level 3- M08

Level 4- M11

Level 5- M13

Level 6- M15