Expectations

2.1   The student will analyze two- and three-dimensional figures using tools and technology when appropriate.

2.2   The student will apply geometric properties to solve problems using tools and technology when appropriate.

Essential Questions

How are constructions proven using the properties of geometric figures?

How is triangle congruence applied and verified?

Enduring Understanding

Properties of geometric figures can be proven.

Indicators

2.1.1   analyze properties of geometric figures.
        2.1.1.f represent and analyze polygons including regular, non-regular, composite, equilateral, and equiangular.

2.1.3   use transformations to move figures, create designs, and/or demonstrate geometric properties.
        Properties and relationships include:
        2.1.3.a reflections, rotations, translations, and dilations.
        2.1.3.b congruence, similarity, and symmetry.

2.1.4   construct and/or draw and/or validate properties of geometric figures using appropriate tools and technology.
        Properties and relationships include:
        2.1.4.a line/segment relationships including parallel, perpendicular, intersecting, bisecting, midpoint, median, and altitude.
        2.1.4.b collinear point relationships.
        2.1.4.c angles and angle relationships including bisector, obtuse, acute, and right.
        2.1.4.d polygons, including regular, non-regular, equilateral, and equiangular.

2.2.1   identify and/or verify congruent and similar figures and/or apply equality or proportionality of corresponding parts.
        2.2.1.a identify and/or verify congruent figures and/or apply equality of their corresponding parts.
2.2.3   use inductive or deductive reasoning.
        2.2.3.d develop direct proofs using a paragraph, flowchart, or 2-column format.