

### **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 and relationships to solve problems using tools and technology when appropriate.
- 2.3 The student will apply concepts of measurement using tools and technology when appropriate.

### **Essential Questions**

How is similarity of geometric figures applied and verified?

How are area and volume of similar figures related?

### **Enduring Understanding**

Similar geometric figures have proportional attributes.

### **Indicators**

- 2.1.2 identify and/or verify properties of geometric figures using the coordinate plane and concepts from algebra.
  - 2.1.2.1 apply properties of transformation using coordinate geometry.
- 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.
- 2.1.4 construct and/or draw and/or validate properties of geometric figures using appropriate tools and technology.
  - 2.1.4.1 solve problems using constructions.
- 2.2.1 identify and/or verify congruent and similar figures and/or apply equality or proportionality of their corresponding parts.
  - 2.2.1.b identify and/or verify similar figures and/or apply proportionality of their corresponding parts.
  - 2.2.1.c apply the properties of similar figures to area and volume problems.
- 2.3.1 use algebraic and/or geometric properties to measure indirectly.
  - 2.3.1.a apply properties of proportionality and similarity to solve problems involving indirect measurements.
    - 2.3.1.1 determine the positive geometric mean between two numbers.
    - 2.3.1.2 *apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.*