Expectation

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

Essential Questions

How can geometric properties be used to prove
relationships between the angles and sides of
geometric figures?

How can the properties of geometric figures be
verified using the coordinate plane?

Enduring Understanding

Relationships that exist between the
angles and sides of geometric figures can
be proven.

Indicators

2.1.1   analyze properties of geometric figures.
      2.1.1.b represent and analyze line/segment/plane relationships including parallel,
          perpendicular, intersecting, bisecting, midpoint, median, and altitude.
      2.1.1.e represent and analyze angle relationships with parallel lines.
      2.1.1.f represent and analyze polygons including regular, non-regular, composite,
          equilateral, and equiangular.
2.1.1.1 determine the sum of the measures of the interior and exterior angles of a convex polygon.
2.1.1.2 determine the measure of each interior angle, each exterior angle, and the number of sides,
      given a regular convex polygon.
2.1.1.3 analyze the relationship between the length of the sides of a triangle and the size of the
      angles.
2.1.2   identify and/or verify properties of geometric figures using the coordinate plane and
      concepts from algebra.
      Properties and relationships include:
      2.1.2.a line/segment relationships including parallel, perpendicular, intersecting, bisecting,
          midpoint, distance, median, and altitude.
      2.1.2.b collinear point relationships.
      2.1.2.c angles and angle relationships including obtuse, acute, and right.
      2.1.2.d polygons including regular, non-regular, 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.b congruence, similarity, and symmetry.