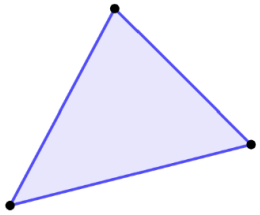
Name: _____ Date: _____

Investigating Interior and Exterior Angles

1. Using GeoGebra, measure each interior angle. Write down each measure and determine the sum of the polygon's interior angles (Original). Then, using the move tool in GeoGebra, drag the vertices of the polygon and record the new angle measures (Example 2). See if the sum changes or stays the same. *You can write down the angle measures in any order since addition is commutative.

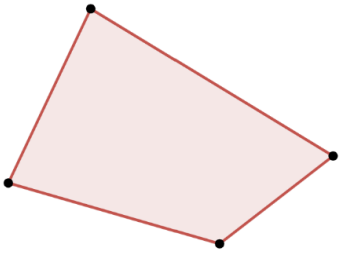
Triangle:



Original: _____° + _____° + _____° = _____°

Example 2: _____° + _____° + _____° = _____°

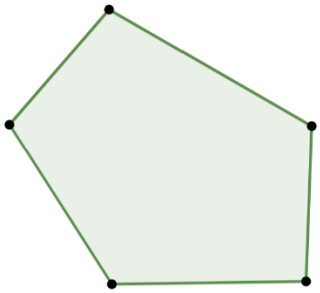
Quadrilateral:



Original: _____° + _____° + _____° = _____°

Example 2: _____° + _____° + _____° = _____°

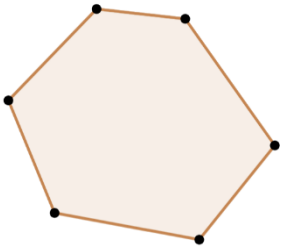
Pentagon:



Original: _____° + _____° + _____° = _____°

Example 2: _____° + _____° + _____° = _____°

Hexagon:



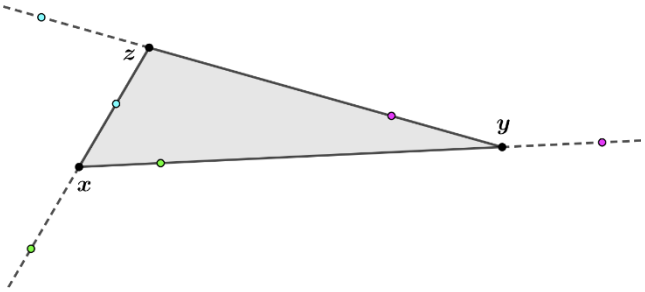
Original: _____° + _____° + _____° = _____°

Example 2: _____° + _____° + _____° = _____°

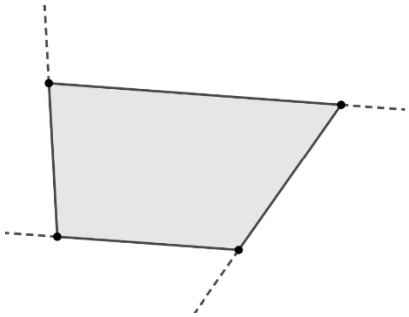
2. Make a conjecture relating the number of sides in a polygon to the sum of its interior angle measures.

3. Using GeoGebra, measure each exterior angle. Write down each measure and determine the sum of the polygon's exterior angles.

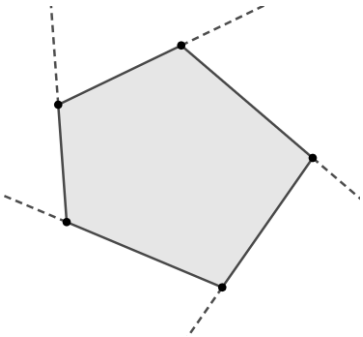
Triangle: _____° + _____° + _____° = _____°



Quadrilateral: _____° + _____° + _____° = _____°



Pentagon: _____° + _____° + _____° = _____°



4. Make a conjecture about the number of sides on a polygon and the sum of its exterior angle measures.