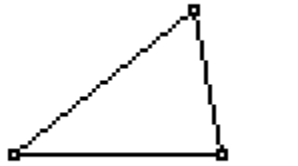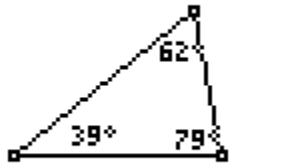# Polygon Angle-Sum Theorem

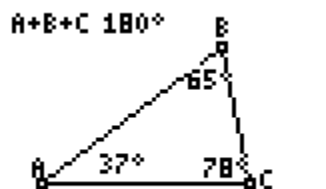Students will find the sums of the measures of the interior angles of polygons.

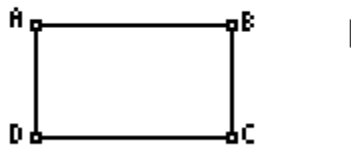1. Using **F2: Triangle** to draw a triangle

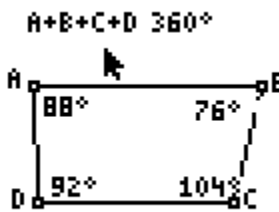2. Use **F5 : Measure: Angle** to find the measure of each angle measure

3. **F5 Calculate** to find the sum of the angles.

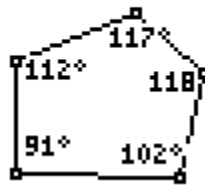4. Use **F2 Quad** to draw a quadrilateral. Use **F5: Alph-Num** to label the vertices.

5. Use **F5 Measure Angle** to find the angle measures and **F5 Calculate** to find the sum of the angles.(the degree measure does not have to equal the diagram)

6. Use **F2: Segment** to draw a five sided figure, find the angle measure and sum.

A+B+C+D+ E 540°

117°
112°   118°
91°   102°

Using Cabri Jr. fill in the chart below and make a conjecture about the Polygon Angle-Sum Theorem.

Convex Polygon	Number of Sides	Sum of Angle Measure
Triangle		
Quadrilateral		
Pentagon		
Hexagon		
Heptagon		
Octagon		
Nonagon		
Decagon		

Look for a pattern in the angle measures. In each case, the sum of the angle measures is _____ less than the number of sides in the polygon times _____.

What will the sum of the angle measures be in a n-gon? _____