Exploring Angles in Polygons

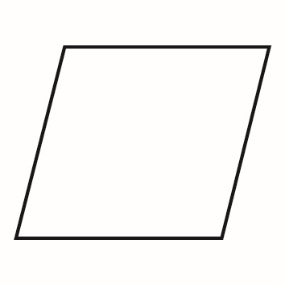
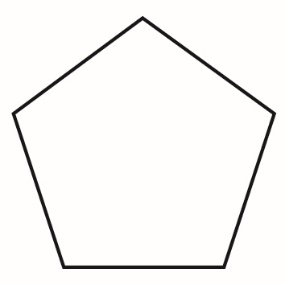
**Measurement**

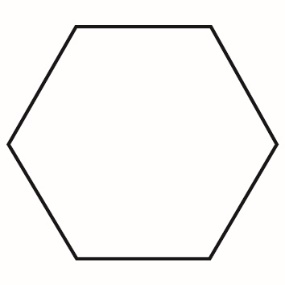
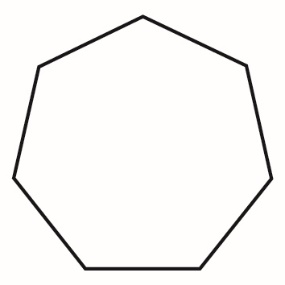
**Unit 1 Line Master 7a**

**Part A:**

* Measure to determine the sum of the interior angles of each of these regular polygons.
* Record your measurements and the sums of the interior angles.

Do you notice any patterns or regularities? Explain.

Exploring Angles in Polygons (cont’d)

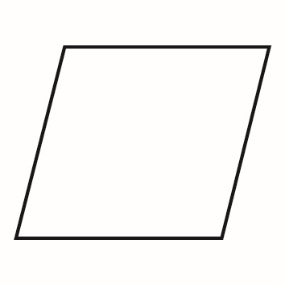
**Measurement**

**Unit 1 Line Master 7b**

**Part B:**

* Decompose each of the shapes into triangles.
* The vertices of the triangles should coincide with the vertices   
  of the polygon (i.e., no vertex of a triangle should be inside   
  the polygon).
* How might you use what you know about the interior angles   
  of a triangle to determine the sum of the interior angles of   
  these polygons?

If *n* represents the number of sides, write a formula you could use   
to determine the sum of the interior angles of any polygon.

 A black hexagon with a white background

Description automatically generated

A black hexagon with a white background

Description automatically generated A black octagon with a white background

Description automatically generated