

Name \_\_\_\_\_

Date \_\_\_\_\_

**Introduction to Polygons – Part 1**  
**Angles of Polygons**  
**Independent Practice**

1. What are the measures of each interior angle and each exterior angle of regular nonagon *ANJOLIQUE*?

2. The sum of the interior angles of a regular polygon is  $2340^\circ$ .

*Part A:* Classify the polygon by the number of sides.

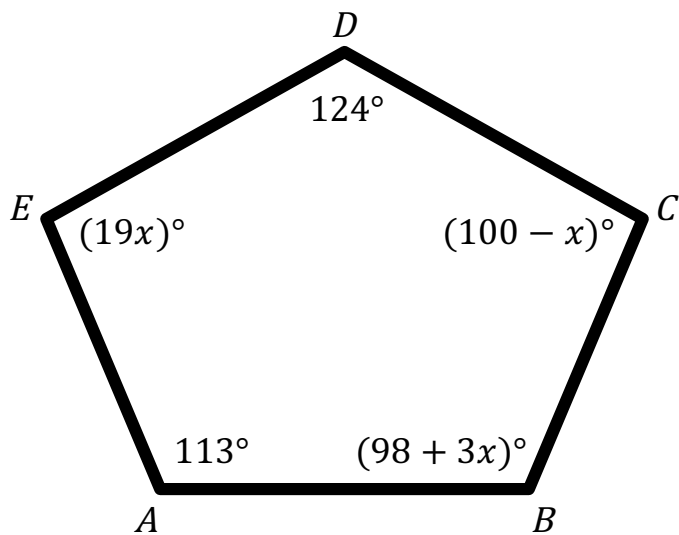
*Part B:* What is the measure of one interior angle of the polygon?

*Part C:* What is the measure of one exterior angle of the polygon?

3. If the measure of an exterior angle of a regular polygon is  $20^\circ$ , how many sides does the polygon have? Justify your answer.



4. Consider pentagon  $ABCDE$ .



Part A: Find the value of  $x$ .

Part B: Determine  $m\angle B$ ,  $m\angle C$ , and  $m\angle E$ .

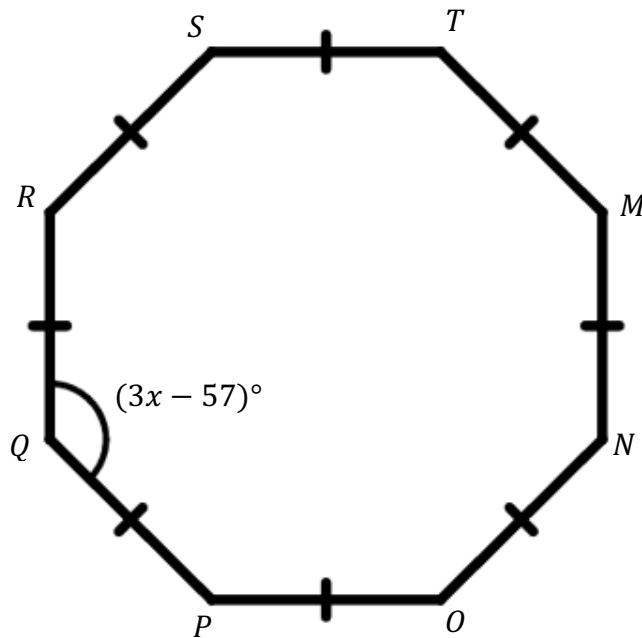
Part C: Find the value of each exterior angle.

5. Given a regular heptagon and a regular hexagon.

Part A: Which one has a greater exterior angle? By how much is the angle greater?

Part B: Which one has a greater interior angle? By how much is the angle greater?

6. Consider the regular octagon below.



Part A: Find the value of  $x$ .

Part B: Find the value of each interior angle.

Part C: Find the value of each exterior angle.

7. The sum of the interior angles of a hexagon is equal to the sum of six consecutive integers. What is the measure of the smallest interior angle of the hexagon?