

4. Do segments  $AC$ ,  $CE$ ,  $EG$ , and  $GA$  all have the same length? Explain your reasoning.

### Lesson 8 Summary

When we apply a 180-degree rotation to a line segment, there are several possible outcomes:

- The segment maps to itself (if the center of rotation is the midpoint of the segment).  
\* The endpoints switch \*
- The image of the segment overlaps with the segment and lies on the same line (if the center of rotation is a point on the segment).
- The image of the segment does not overlap with the segment (if the center of rotation is *not* on the segment).

We can also build patterns by rotating a shape. For example, triangle  $ABC$  shown here has  $m(\angle A) = 60$ . If we rotate triangle  $ABC$  60 degrees, 120 degrees, 180 degrees, 240 degrees, and 300 degrees clockwise, we can build a hexagon.

