4.4 Similar Polygons

Explore How to Identify Similar Polygons

The following notes provide guidelines to help you adapt the Explore How to Identify Similar Polygons section from *MathLinks 9*.

- Assign the Warm Up so students can practise measuring the interior angles of polygons. Encourage students to extend the length of each side if they have difficulty locating the degrees on the protractor.
- If students are struggling to measure angles, have them turn the page until each angle has a horizontal arm. This will allow them to keep the protractor positioned in the same direction, minimizing confusion.
- Discuss different names for polygons (e.g., triangle, quadrilateral, pentagon, parallelogram, trapezoid). Post examples of each.

Examples

Working Example 1:

- Discuss the sum of the interior angles of different polygons (square = 360°, parallelogram = 360°, trapezoid = 360°, pentagon = 540°). Demonstrate this concept by cutting a polygon into non-overlapping triangles and measuring the angles of each triangle (see the Did You Know box on page 155 of *MathLinks 9* for an example). Students can use this method to check their measurements.

Working Example 2:

- Review the relationship between multiplication and division. Use a simple example first: $3 \times 2 = 6$ and $6 \div 2 = 3$ or $6 \div 3 = 2$. Then show a more difficult example: $5 \times 1.8 = 9$ and $9 \div 5 = 1.8$ or $9 \div 1.8 = 5$.

Communicate the Ideas, Practise, and Apply

- Allow students to work in small groups or pairs. Encourage them to check each other's work.
- In #1, encourage students to draw the image on a separate sheet of grid paper.
- Provide students who need additional practice with **BLM 4–5 Section 4.4 Extra Practice**.

Common Errors

- When measuring angles with a protractor, students may start at 180° instead of 0°.

R_x Remind students to start at 0° on the protractor and work their way up.

- Students may struggle to read the degrees on a protractor.

R_x Encourage students to extend the arms of each angle so that they touch the degree markings on the protractor.