4.3 Similar Triangles

Explore How to Identify Similar Triangles

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

- Review how to name angles and sides of triangles. Use the Warm Up to review how to use a protractor to measure angles, and how to find the measurement of a missing angle of a triangle. Photocopy **Master 24 Protractors** on transparencies for students who do not have a protractor.
- Discuss the meaning of *corresponding sides*, *corresponding angles*, and *similar figures*. Post an example of each.

Examples

Working Example 1:
- Some students may benefit from colour-coding the corresponding angles and the corresponding sides.
- Before assigning the Show You Know, discuss orientation. If triangles are not oriented in the same direction, have students trace one of the triangles (including angle names and degrees) and rotate the traced image until it has the same orientation as the other triangle.

Working Example 2:
- Remind students that the angles in a triangle add up to 180°. Review how to determine the measure of an angle when two angle measures are provided.
- Remind students that they do not need to check both corresponding sides *and* angles. If the shapes have corresponding sides *or* angles, they are similar.
- For Method 2, review the meaning of *proportion* and do a simple example. Review how to find an equivalent fraction. Remind students that similar shapes must be proportionate; the enlargement or reduction must use the same scale factor for each dimension.

Communicate the Ideas, Practise, and Apply

- For #3b) and #5, remind students to think about orientation. Encourage them to trace one of the triangles and rotate the image if necessary.
- For #8, encourage students to label the individual triangles with the measures provided in the question.
- Provide students who need additional practice with **BLM 4–4 Section 4.3 Extra Practice**.

Math Link

- Discuss what a logo is and show examples.
- For part a), have students check the accuracy of their measurements with one or two classmates before proceeding with their design.

Common Errors

- When measuring angles with a protractor, students may start at 180° instead of 0°.
- R_x Remind students to start at 0° when measuring angles on the protractor and work their way up, just like counting.

- Students may get confused if triangles do not have the same orientation.
- R_x Have them look for the smallest angle in each triangle and colour them the same. They can do the same using the longest side or marking the hypotenuse in a right triangle. Alternatively, have students trace one of the triangles and rotate the traced image until it has the same orientation as the other triangle.