Lesson 2.3.4: AA Criteria for Similarity

Targets:

1. I can determine whether triangles are similar given just two corresponding angles.
2. I can find missing measurements of similar triangles.

Warm Up

1. Draw two triangles of different sizes with two pairs of equal angles. Then measure the lengths of the corresponding sides to verify that the ratio of their lengths is proportional. Use a ruler, compass, or protractor, as necessary.

2. Are the triangles you drew in Exercise 1 similar? Explain.

3. Why is it that you only needed to construct triangles where two pairs of angles were equal and not three?

4. Why were the ratios of the corresponding sides proportional?

Warm Up (part 2)

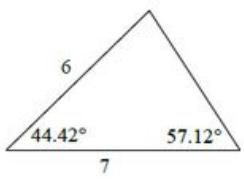
Draw another two triangles of different sizes with two pairs of equal angles. Then measure the lengths of the corresponding sides to verify that the ratio of their lengths is proportional. Use a ruler, compass, or protractor, as necessary.

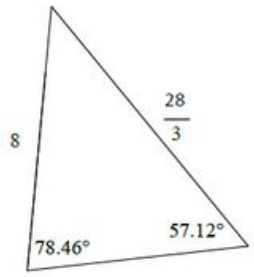
AA Triangle Similarity Shortcut:

Two triangles with two pairs of equal corresponding angles are similar.

Practice 1

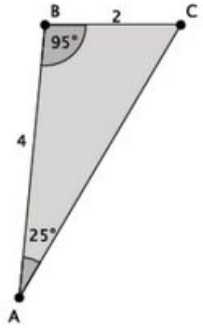
Are the triangles shown below similar? Explain. If the triangles are similar, identify any missing angle and side length measures.

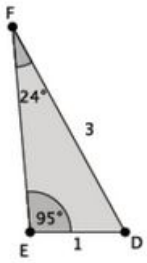




Practice 2

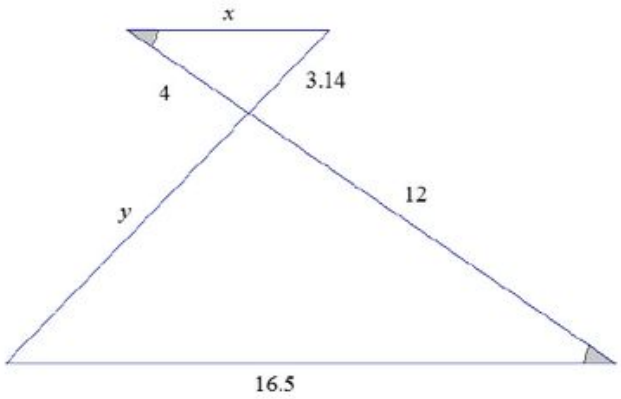
Are the triangles shown below similar? Explain. If the triangles are similar identify any missing angle and side length measures.





Practice 3

The triangles shown below are similar. Use what you know about similar triangles to find the missing side lengths x and y.



Exit Ticket

The triangles shown below are similar. Write an explanation to a student, Claudia, of how to find the lengths of x and y.