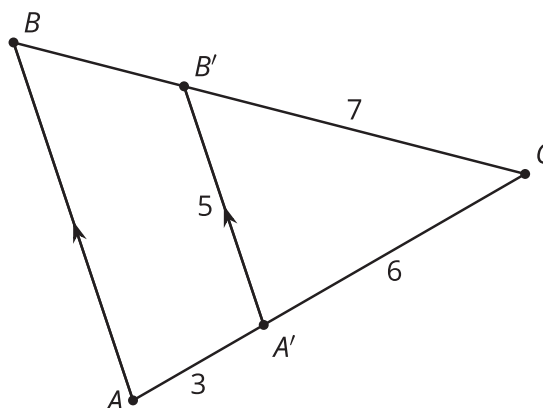# Lesson 11 Practice Problems
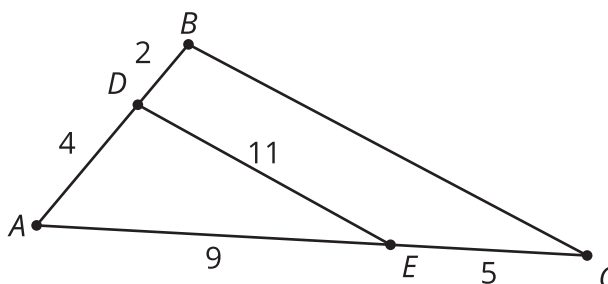
1. Segment $A'B'$ is parallel to segment AB.

    a. What is the length of segment AB?
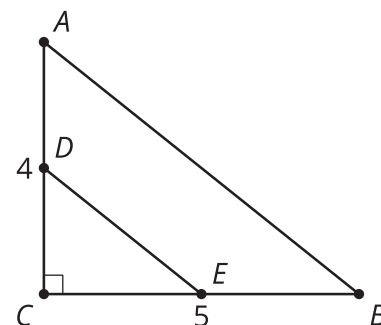
    b. What is the length of segment $B'B$?

2. Explain how you know that segment DE is *not* parallel to segment BC.

3. In right triangle ABC, $AC = 4$ and $BC = 5$. A new triangle DEC is formed by connecting the midpoints of AC and BC.

    a. What is the area of triangle ABC?

    b. What is the area of triangle DEC?

   c. Does the scale factor for the side lengths apply to the area as well?

4. Which of these statements is true?

   A. To know whether 2 triangles are similar, it is enough to know the measure of 1 angle.

   B. To know whether 2 triangles are similar, it is enough to know the length of 1 side.

   C. To know whether 2 triangles are similar, it is enough to know the measure of 2 angles in each triangle.

   D. To know whether 2 triangles are similar, it is enough to know the measure of 2 sides in each triangle.
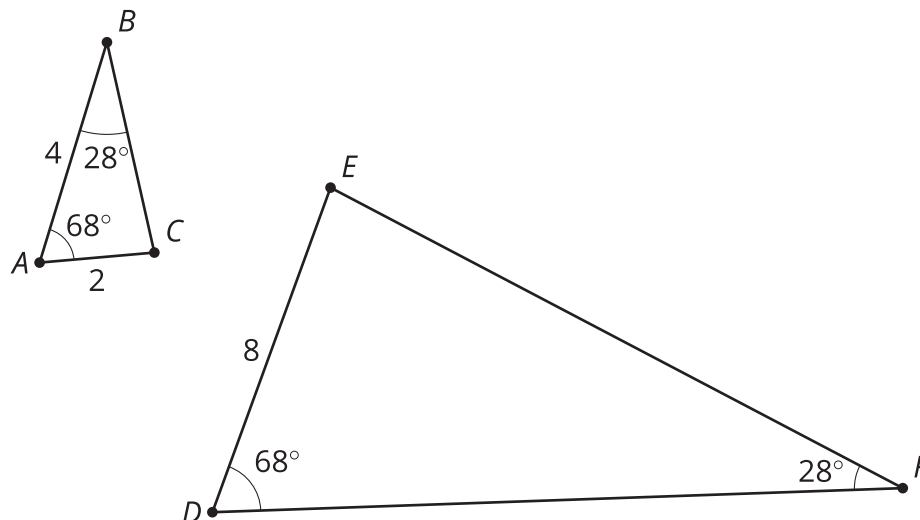
   (From Unit 3, Lesson 10.)

5.   a. Are triangles ABC and DEF similar? Show or explain your reasoning.

   b. If possible, find the length of EF. If not, explain why the length of EF cannot be determined.
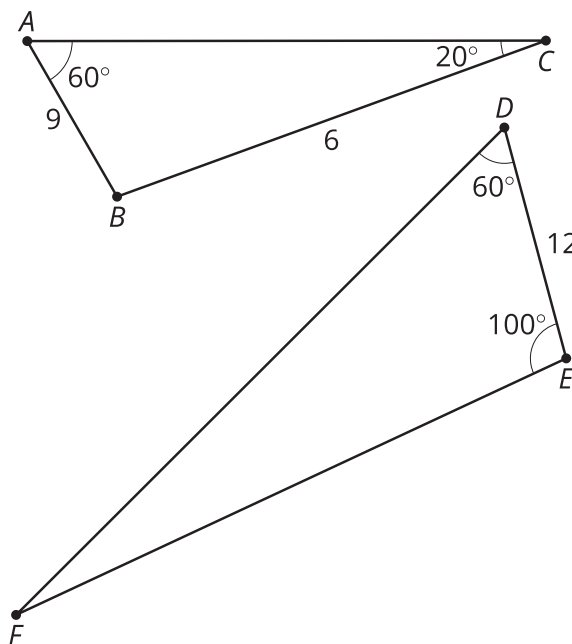
   (From Unit 3, Lesson 10.)

6. What is the length of segment DF?

7. The triangle ABC is taken to triangle $A'B'C'$ by a dilation. Select **all** of the scale factors for the dilation that would result in an image that was *smaller* than the original figure.

   A. $\frac{1}{2}$

   B. $\frac{8}{9}$

   C. 1

   D. $\frac{3}{2}$

   E. 2