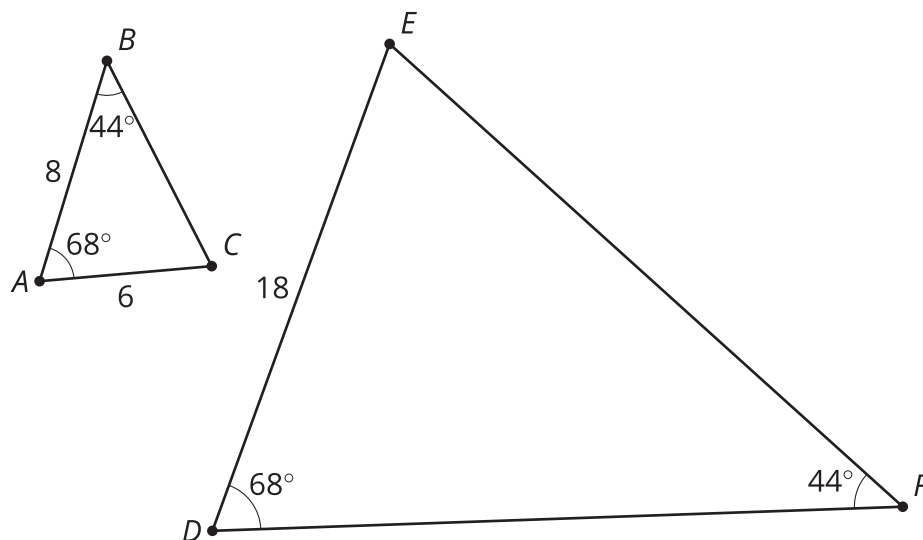# Lesson 9 Practice Problems

1. What is the length of segment DF?

2. In triangle ABC, angle A is 35° and angle B is 20°. Select **all** triangles which are similar to triangle ABC.

    A. triangle DEF where angle D is 35° and angle E is 20°

    B. triangle GHI where angle G is 35° and angle I is 30°

    C. triangle JKL where angle J is 35° and angle L is 125°

    D. triangle MNO where angle N is 20° and angle O is 125°

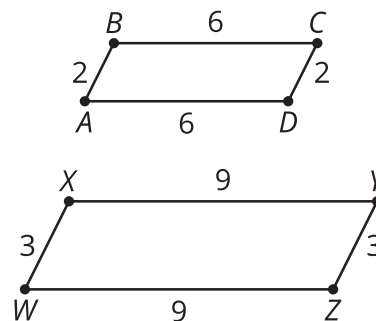   E. triangle PQR where angle Q is 20° and angle R is 30°

3. Decide whether triangles ABC and DEC are similar. Explain or show your reasoning.
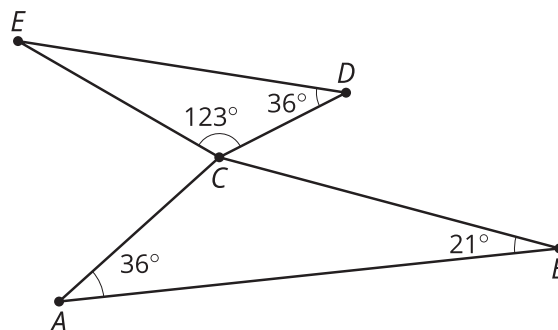
4. Lin is trying to convince Andre that all circles are similar. Help her write a valid justification for why all circles are similar.

(From Unit 3, Lesson 8.)

5. Must these parallelograms be similar? Explain your reasoning.

(From Unit 3, Lesson 8.)

6. Determine if each statement must be true, could possibly be true, or definitely can't be true. Explain or show your reasoning.
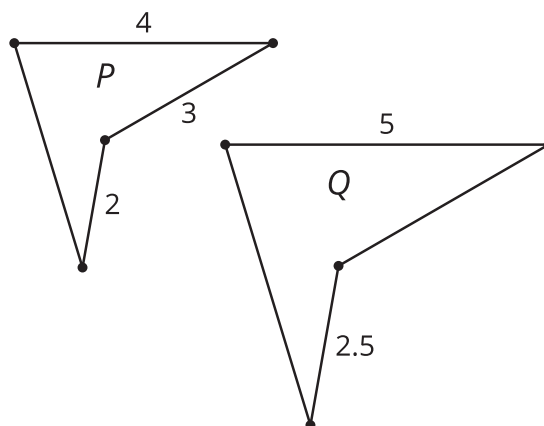
   a. An equilateral triangle and a right triangle are similar.

   b. A right triangle and an isosceles triangle are similar.

(From Unit 3, Lesson 7.)

7. Quadrilaterals Q and P are similar.

What is the scale factor of the dilation that takes P to Q?
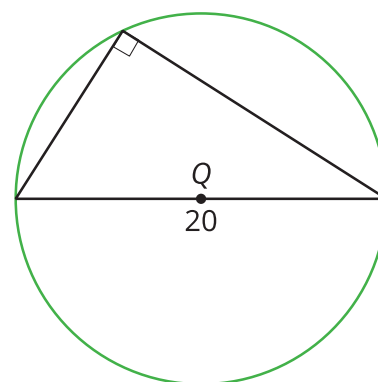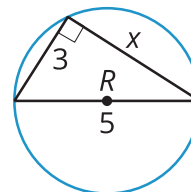

A. $\frac{3}{5}$

B. $\frac{4}{5}$

C. $\frac{5}{4}$

D. $\frac{5}{3}$

(From Unit 3, Lesson 6.)

8. The circle centered at Q is a scaled copy of the circle centered at R.

   a. Find the scale factor.

   b. Find the value of x.

(From Unit 3, Lesson 1.)