Lesson 2 Practice Problems
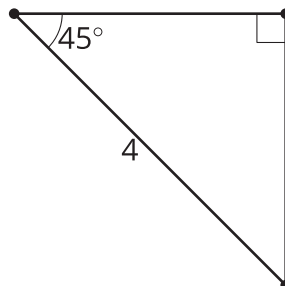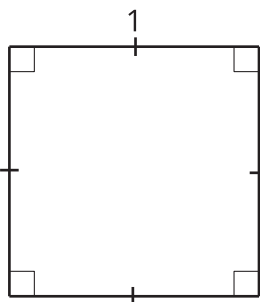
1. Find the lengths of the legs.

A. $4\sqrt{2}$ units

B. $\dfrac{4}{\sqrt{2}}$ units

C. 4 units

D. Not enough information

2. What is the length of the diagonal?

3. A square has a diagonal of length 5 cm. What is the area of the square?

4. Priya is teaching her younger cousin to ride a bike. She wants to stay on roads that are not too steep and easy enough for a new bike rider. She has decided the roads must have an angle less than or equal to 7 degrees. A 7 degree angle in a right triangle has a $3 : 25$ ratio for the legs. List the legs of 2 right triangles that would be safe for a new bike rider.

(From Unit 4, Lesson 1.)

5. Clare and Han are discussing how to find the missing lengths. Clare says she is using similarity. Han says he is using the Pythagorean Theorem.

   a. Do you agree with either of them? Show or explain your reasoning.
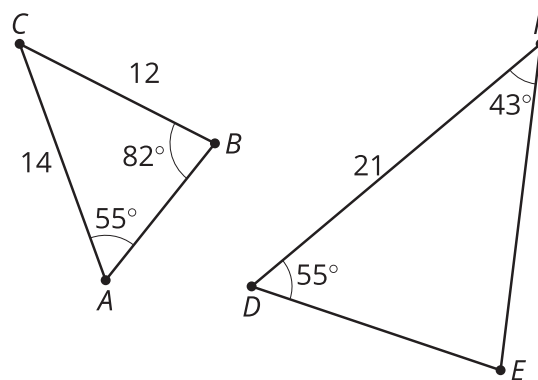
   b. Find the missing sides.
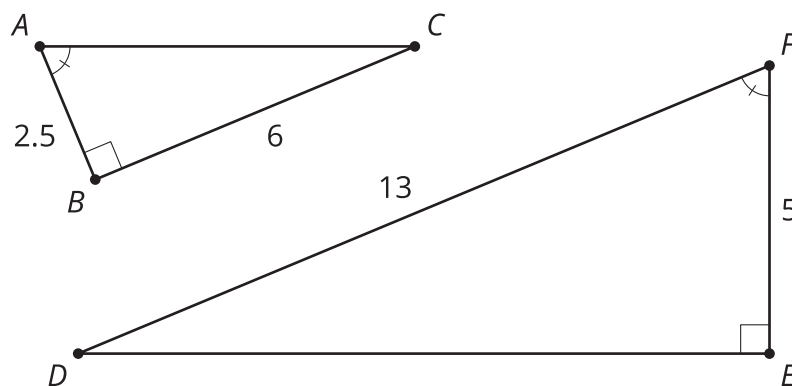
(From Unit 4, Lesson 1.)

6. In right triangle ABC, angle C is a right angle, AB is 25 units long, and BC is 24 units long. What is the length of AC?

    A. 1

    B. 2

    C. 7

    D. 49

(From Unit 3, Lesson 15.)

7.   a. Find the length of EF.

    b. Find the measure of angle E.

(From Unit 3, Lesson 10.)

8. Determine if each statement must be true, could possibly be true, or definitely can't be true. Explain or show your reasoning.

    a. Isosceles triangles are similar.

    b. Equilateral triangles are similar.

(From Unit 3, Lesson 7.)