

Name: _____ Period: _____

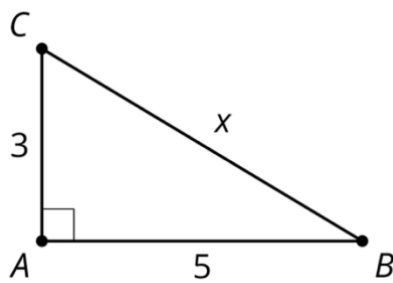
Unit 4 Lessons 1 & 2 Classwork

Lesson 1: Angles and Steepness

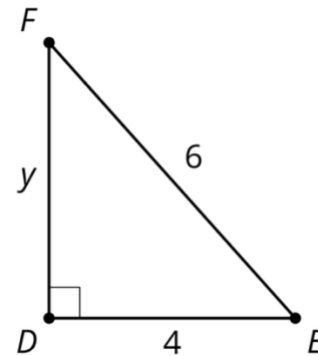
1.2: Can You Calculate?

Find the values of x , y , and z . **If there is not enough information, what else do you need to know?**

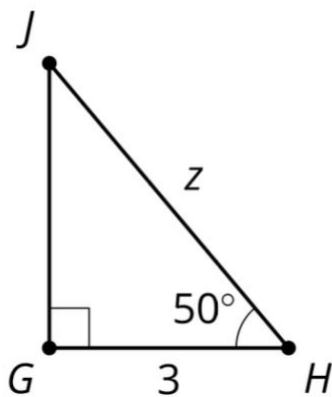
a.



b.



c.



1.3: Is it Accessible?

1. Some buildings offer ramps in addition to stairs so people in wheelchairs have access to the building. What characteristics make a ramp safe?



2. A school has 4 steps to the front door. Each step is 7 inches tall. Design a ramp for the school. Your teacher will give you the Americans with Disabilities Act (ADA) guidelines. Does your design follow the rules of this law? If not, draw a new design that does.

Lesson 2: Half a Square

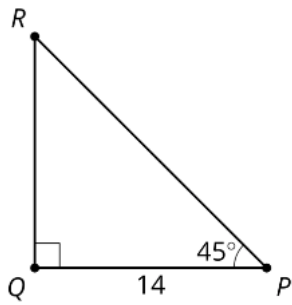
2.2: Decomposing Squares

1. Draw a square with side lengths of 1 cm. Estimate the length of the diagonal. Then calculate the length of the diagonal.
2. Measure the side length and diagonal length of several squares, in centimeters. Compute the ratio of side to diagonal length for each.
3. Make a conjecture.

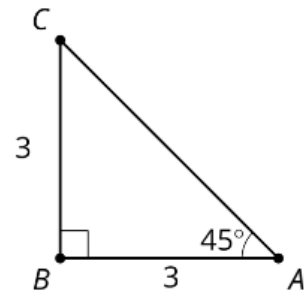
2.3: Generalize Half Squares

Calculate the lengths of the 5 unlabeled sides.

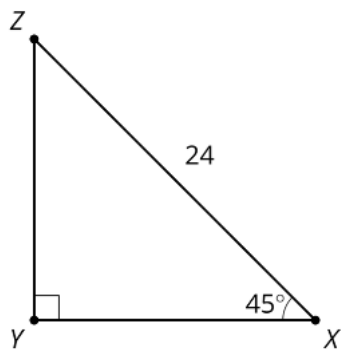
a.



b.



c.



Americans with Disabilities Act Ramp Guidelines

Ramps are required for any change in level greater than $\frac{1}{2}$ inch.

Ramps have a maximum slope of 1:12 (4.8 degrees)

Ramps have a minimum width of 36 inches.

There must be a minimum 5 feet by 5 feet flat area at the top and bottom of the ramp for turning.

Ramps may be no longer than 30 feet horizontally between flat rest or turn platforms.

Source: <https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards>

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