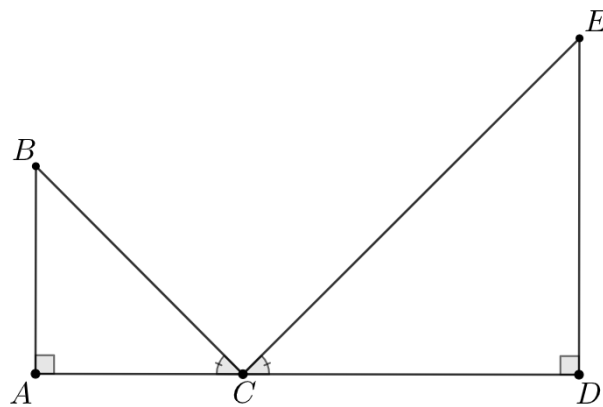


Lesson 3.10
Deep Dive: Practice with Similarity

Geometry GT

Analyze

What do you notice? What do you wonder?



Task

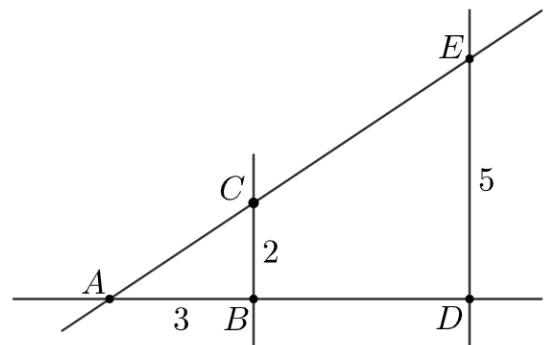
The first major monument to honor George Washington is the Washington Monument, located north of Baltimore and built in 1829.



Andrea is 5.5 feet tall and sets a mirror on the ground 3 feet away from her, such that she can see the top of the Washington Monument. She measures the distance from the mirror to the monument as 97.5 feet. How tall is the Washington Monument?

Practice

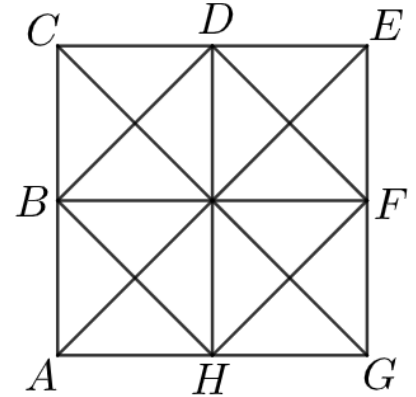
1. Lines \overleftrightarrow{BC} and \overleftrightarrow{DE} are vertical. What is the length of \overline{BD} ?



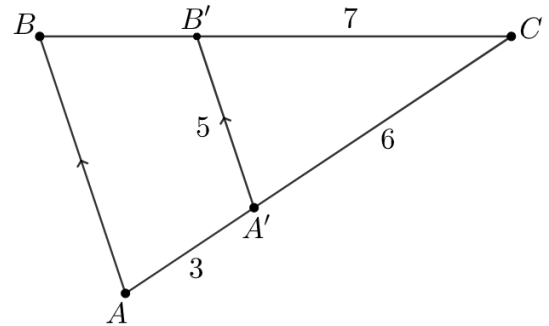
2. The quilt is made of squares with diagonals. Side length \overline{AB} has a length of 2.

A. What is the length of \overline{BD} ?

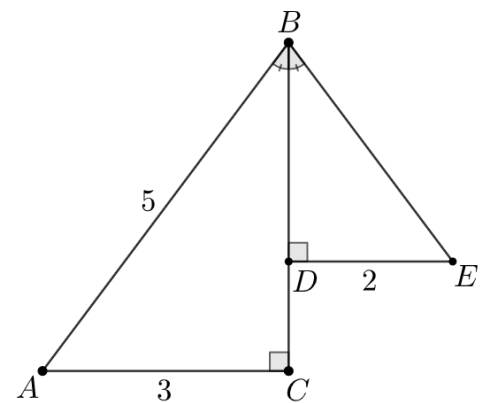
B. What is the area of $\triangle AEH$?



3. Segment $\overline{A'B'}$ is parallel to segment \overline{AB} . What is the length of segment $\overline{BB'}$?

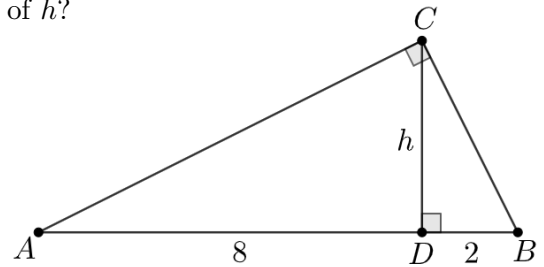


4. In the right triangles shown, $\angle ABC \cong \angle EBD$. What is the length of \overline{BE} ?



5. In right triangle $\triangle ABC$, $\angle C$ is a right angle, $AB = 13$, and $BC = 5$. What is the length of \overline{AC} ?

6. In right triangle $\triangle ABC$, altitude \overline{CD} with length h is drawn to its hypotenuse. Given $AD = 8$ and $DB = 2$, what is the value of h ?



7. Harper is playing a game with a class of second graders. Harper knows they are exactly 120 inches from the mirror on the floor. Students stand so that Harper can just see the top of their heads and the guesses their heights. The students are amazed!

A. How is Harper so accurate? Draw a diagram to support your reasoning.

B. If a student is 72 inches away from the mirror, and Harper is 65 inches tall, how tall is the student?