

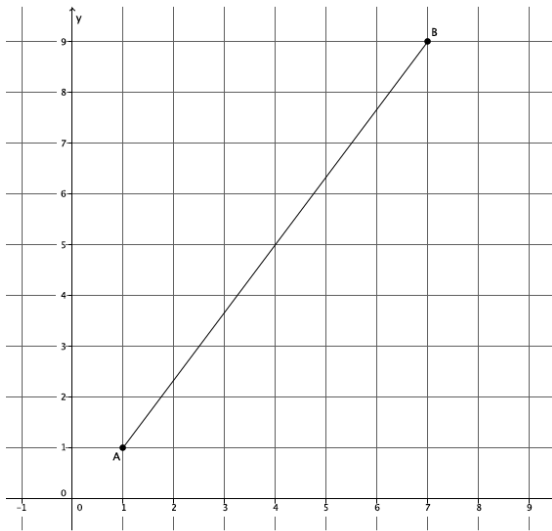
Lesson Summary

The Pythagorean theorem can be used to find the unknown length of a leg of a right triangle.

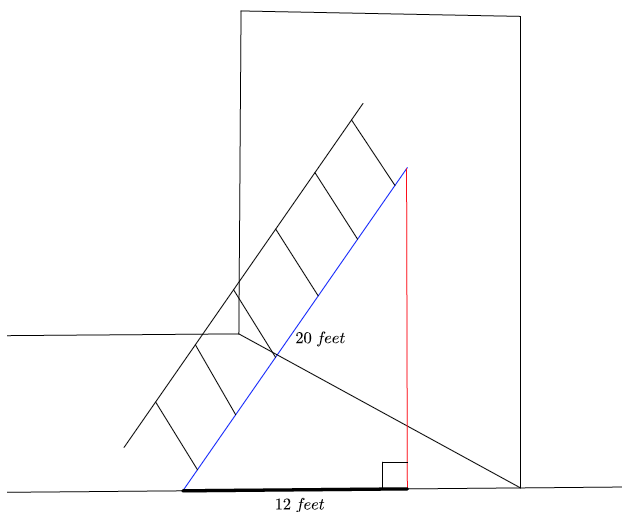
An application of the Pythagorean theorem allows you to calculate the length of a diagonal of a rectangle, the distance between two points on the coordinate plane, and the height that a ladder can reach as it leans against a wall.

Problem Set

1. Find the length of the segment AB shown below, if possible.



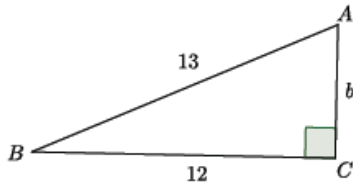
2. A 20-foot ladder is placed 12 feet from the wall, as shown. How high up the wall will the ladder reach?



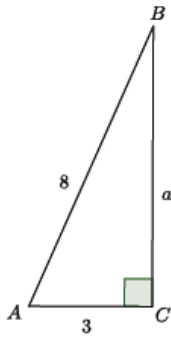
3. A rectangle has dimensions 6 in. by 12 in. What is the length of the diagonal of the rectangle?

Use the Pythagorean theorem to find the missing side lengths for the triangles shown in Problems 4–8.

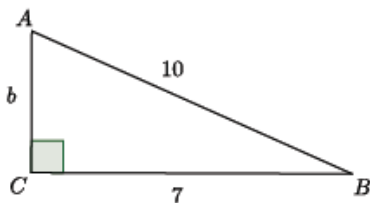
4. Determine the length of the missing side, if possible.



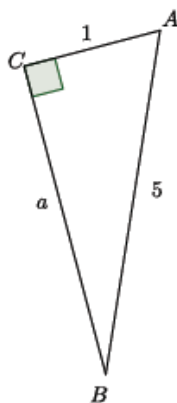
5. Determine the length of the missing side, if possible.



6. Determine the length of the missing side, if possible.



7. Determine the length of the missing side, if possible.



8. Determine the length of the missing side, if possible.

