

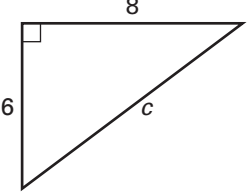
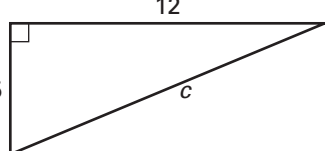
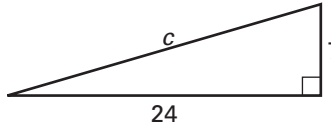
Practice A

For use with pages 191–198

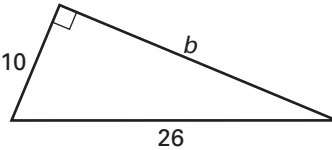
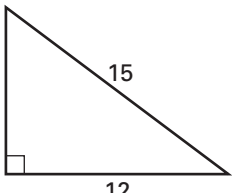
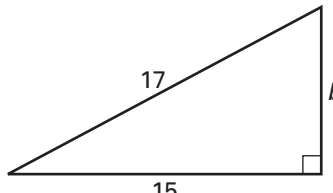
Complete the statement.

1. In a right triangle, the sides that form the right angle are called ?.
2. In a right triangle, the side opposite the right angle is called the ?.
3. In a right triangle, the square of the length of the ? is equal to the sum of the squares of the lengths of the ?.
4. If $A(x_1, y_1)$ and $B(x_2, y_2)$ are points in a coordinate plane, then the ? between A and B is $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

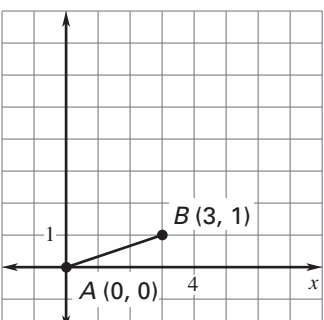
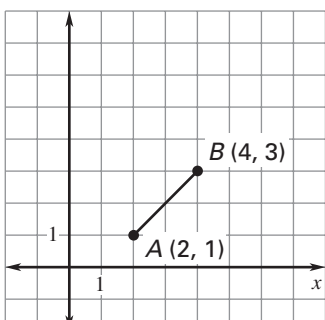
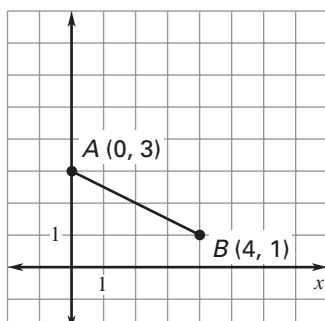
Find the length of the hypotenuse.

5.  A right triangle with a vertical leg of length 6 and a horizontal leg of length 8. The hypotenuse is labeled c . The right angle is at the top-left vertex.
6.  A right triangle with a vertical leg of length 5 and a horizontal leg of length 12. The hypotenuse is labeled c . The right angle is at the top-left vertex.
7.  A right triangle with a horizontal leg of length 24 and a vertical leg of length 7. The hypotenuse is labeled c . The right angle is at the bottom-right vertex.

Find the unknown side length.

8.  A right triangle with a vertical leg of length 10 and a horizontal leg of length 26. The hypotenuse is labeled b . The right angle is at the top-left vertex.
9.  A right triangle with a vertical leg of length a and a horizontal leg of length 12. The hypotenuse is labeled 15. The right angle is at the bottom-left vertex.
10.  A right triangle with a horizontal leg of length 15 and a vertical leg of length b . The hypotenuse is labeled 17. The right angle is at the bottom-right vertex.

Find the distance between points A and B . Round your answer to the nearest tenth, if necessary.

11.  A coordinate plane with x and y axes. Point A is at $(0, 0)$ and point B is at $(3, 1)$.
12.  A coordinate plane with x and y axes. Point A is at $(2, 1)$ and point B is at $(4, 3)$.
13.  A coordinate plane with x and y axes. Point A is at $(0, 3)$ and point B is at $(4, 1)$.

14. The diagram at the right shows the distance from your school to the bank and the distance from the bank to the library. Find the length of the shortest route from your school to the library. Round your answer to the nearest tenth of a mile.

