

# The Pythagorean Theorem

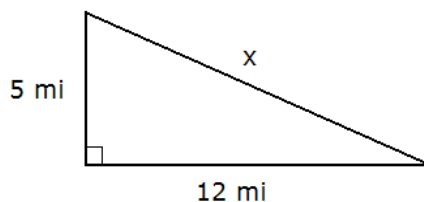
1. Could the three line segments given below be the three sides of a right triangle? Explain your answer.

(a) 2 cm, 7 cm, and 1 cm

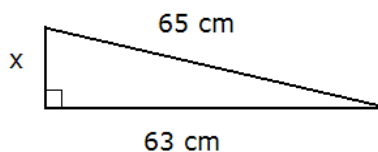
(b) 37 ft, 12 ft, and 35 ft

(c) 4 m, 5 m, and 6 m

2. Find the hypotenuse of the triangle shown on the figure below.



3. Find the missing leg of the right triangle shown on the picture below.



4. Find the length of the diagonal in a rectangle with sides 20 ft and 21 ft long.

5. Find the length of the diagonal of a square with sides 1 unit long.

6. Two sides of a right triangle are 8 cm and 17 cm long. Find the length of the missing side.

7. Find the distance between the points  $(-2, -3)$  and  $(3, 1)$ .

8. Find the distance between the points  $(-9, -3)$  and  $(15, 4)$ .

9. One leg of a right triangle is 9 cm. The difference between the other two sides is 1 cm. Find the length of all sides.

10. The hypotenuse of a right triangle is 50 in. The difference between the other two sides is 34 in. Find the length of all sides.