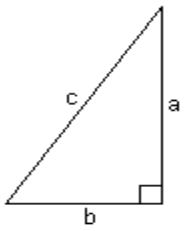
Pythagorean Theorem

Pythagorean Theorem is used to find the measurement of the sides of a **right triangle**.

A **right triangle** is a triangle that has two sides that form a 90-degree angle.



$$leg^2 + leg^2 = hypotenuse^2$$

$$a^2 + b^2 = c^2 \quad c\ is\ the\ diagonal$$

Overview:

1) Students will use the Pythagorean Theorem to shop for the right size TV.
2) Students will solve using square root.
3) Watch a video on how to find a missing side using Pythagorean Theorem:

Buying a Television

The TV sizes available out in the market are 32, 40, 43, 50, 55, 60, 65, 70, 75 inches. These values represent the diagonal dimension of the TV screen.

1) If you want to purchase a TV that would fit in an entertainment center with an opening that measures 55 inches in width and 30 inches in height. What would be the right screen size TV you can get?

Find the TV screen measurement in inches. (Use Pythagorean Theorem)

a) Draw a picture and label the sides.

b) Find the missing side. (Round to the nearest inch)

2) Does a 50-inch TV that has a width of 43.6 inches fit in the entertainment center?
   a) Draw a picture and label sides?
   b) Find the missing side. Round your answer to the nearest tenth of an inch.
   c) Would this 50-inch TV fit in the entertainment Center listed in the 1st prompt? Why or Why not?

3) What is the size of a TV that has a width of 52.3 inches and a height of 29.4 inches?
   a) Find the missing side. Round your answer to the nearest whole inch.
   b) Would it fit in the entertainment center? Yes or No?