

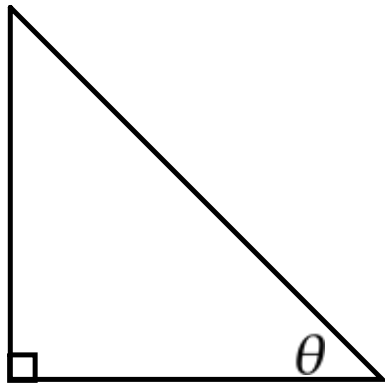
6-1 Solving Right Triangles

Objectives:

6-1a: I can write all six trigonometric ratios from a right triangle.

6-1b: I can solve right triangles using trigonometric functions.

Label the opposite, adjacent and hypotenuse sides





$$\sin \theta =$$

$$\csc \theta =$$

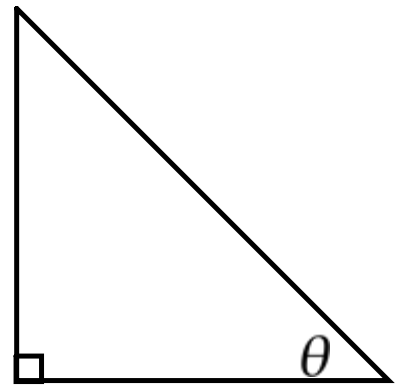
SohCahToa

$$\cos \theta =$$

$$\sec \theta =$$

$$\tan \theta =$$

$$\cot \theta =$$



Write all six trig functions for the given right triangle.

$$\sin \theta =$$

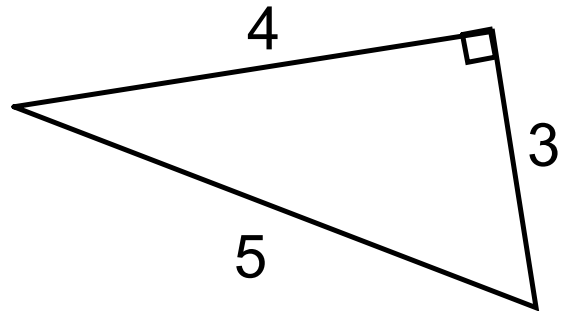
$$\csc \theta =$$

$$\cos \theta =$$

$$\sec \theta =$$

$$\tan \theta =$$

$$\cot \theta =$$

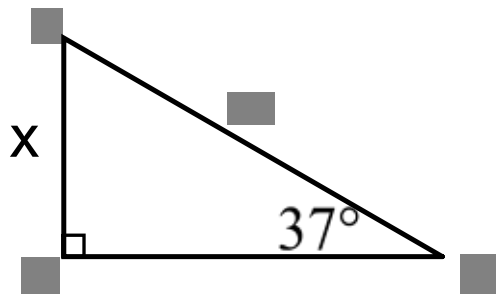


To "solve" a triangle means to find ALL side lengths and angle measures.

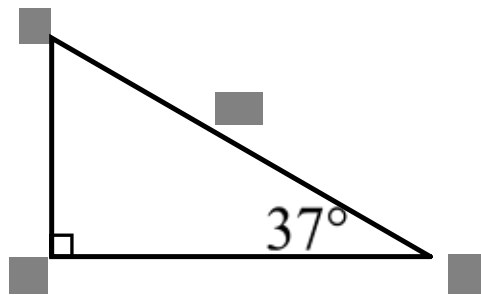
REMEMBER

- All triangles have an angle sum of 180 degrees
- Pythagorean Theorem to find a missing side when you know other two sides (right triangles only)
- Inverse Trig to find a missing angle (right triangles only)

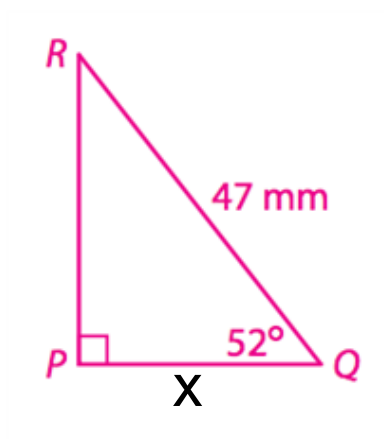
First, label each side. Then find the side labeled x



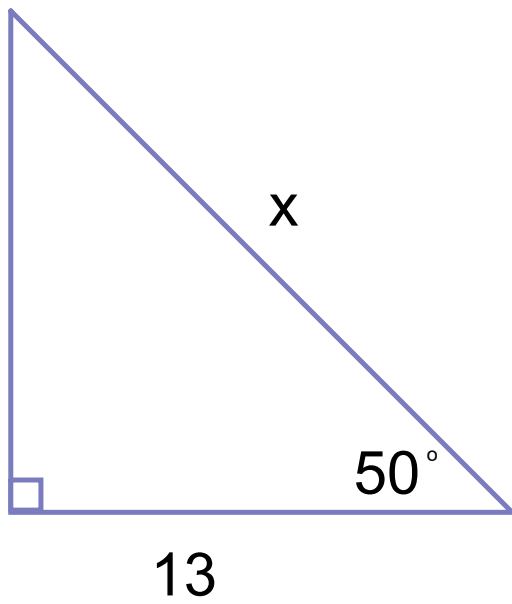
Find all remaining sides and angles



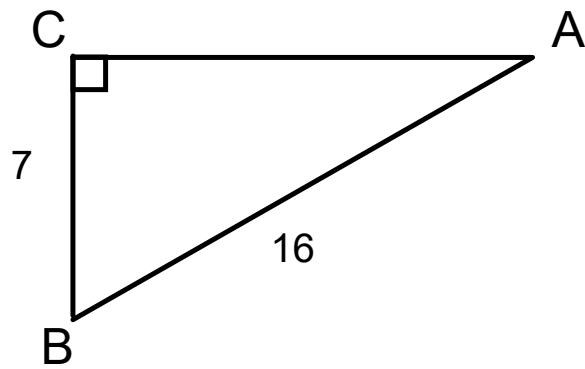
Find the side labeled x

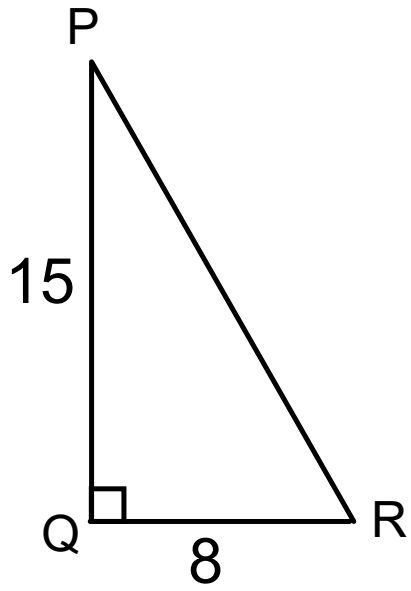


Find the side labeled x



Find angle A





Find angle R

A building casts a 33-m shadow when the Sun is at an angle of 27° to the vertical. How tall is the building, to the nearest meter? How far is it from the top of the building to the tip of the shadow? What angle does a ray from the Sun along the edge of the shadow make with the ground?