## Trig Ratios in Right Triangles


(1) Identify the properties of right triangles.Find the trigonometric ratio that describes the angle of the given right triangle.Evaluate the height of the Statue of Liberty using trigonometric ratios.Solve for the height of each tree.Determine the distance to the Eiffel Tower.Calculate the side lengths and angles of the right triangle.
with lots of tips, answer keys, and detailed answer explanations for all of the problems.

The complete package, including all problems, hints, answers, and detailed answer explanations is available for all sofatutor.com subscribers.

## Identify the properties of right triangles.

Select the sentences that are true for right triangles.


The side opposite the right angle is called the hypotenuse.

B
Some triangles have two right angles.

The opposite leg is between $\angle A$ and the right angle.
C

D
The opposite leg is across from $\angle A$.

## Hints for solving these problems

## 1 16 Identify the properties of right triangles.

## Hint \#1

The hypotenuse is always the longest leg of a right triangle.

## Hint \#2

Adjacent leg and opposite leg depend on the position of $\angle A$.

## Answers and detailed answer explanations for these problems

## Identify the properties of right triangles.

Answer key: A, D

Understanding the characteristics right triangles can teach us a lot about geometry.
Every right triangle has exactly one right angle. Two right angles are not possible. Try it out! (...but don't spend too much time trying.)

The side opposite the right angle is called the hypotenuse, and this is always the longest side of a right triangle. The opposite leg is across from $\angle A$, and the adjacent leg is always between $\angle A$ and the right angle.

As you maybe have noticed, you can change the position of $\angle A$. Then, the opposite leg becomes the adjacent leg, and the adjacent leg becomes the opposite leg. The sides are always named according to the location of angle $A$.

