

# 7.1

Date:

Objective:

Simplify the following radicals.

Example 1

$$\sqrt{13} \cdot \sqrt{13}$$

Example 2

$$\sqrt{20} \cdot 3\sqrt{32}$$

Steps

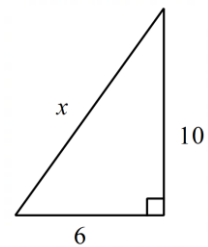
Simplify by rationalizing the denominator.

Steps

Example 1

$$\frac{5\sqrt{20}}{3\sqrt{3}}$$

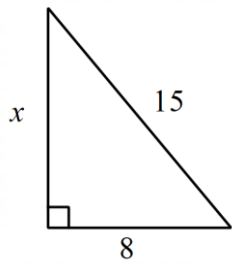
What do you use to find the missing side of a right triangle?



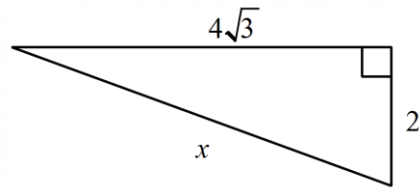
\_\_\_\_\_ can only be used on  
**RIGHT** triangles!!!!!!!!!!

Find the missing side of the following right triangles. Leave answers in simplest radical form. NO DECIMALS!!

Example 1



Example 2



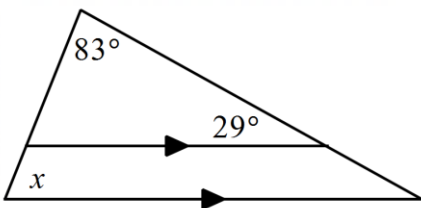
Rule: Radicals cannot have decimals in them.

So, if the square root has a decimal in it, then round your answer to the nearest hundredth.

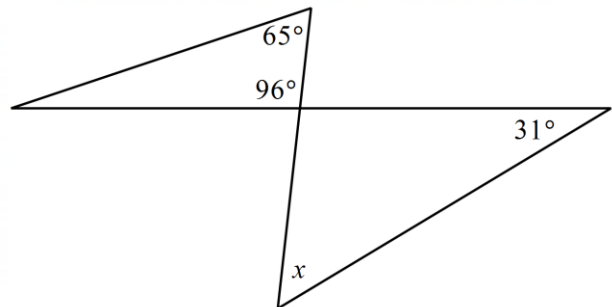
How many degrees do all the angles of a triangle add up to?

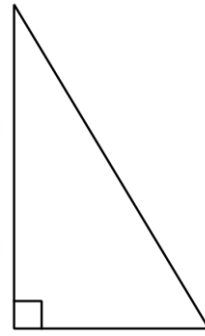
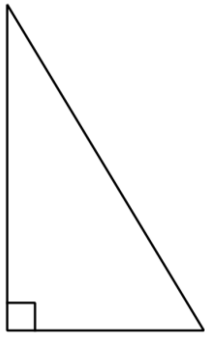
Find the missing angle.

Example 1



Example 2





$\theta = \text{theta}$

$\gamma = \text{gamma}$

$\alpha = \text{alpha}$

$\beta = \text{beta}$

Hypotenuse:

Opposite side:

Adjacent side:

Ratios of the sides are the same for every angle. Example: No matter how long the sides are of a  $53.1^\circ$  angle, when you divide the 2 sides you will always get the same decimal.

There are 6 trigonometric functions.

Sine = \_\_\_\_\_ = \_\_\_\_\_

Cosecant = \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

Cosine = \_\_\_\_\_ = \_\_\_\_\_

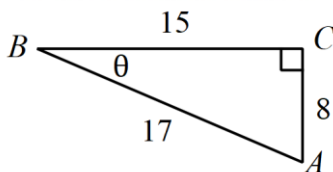
Secant = \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

Tangent = \_\_\_\_\_ = \_\_\_\_\_

Cotangent = \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

**Example: Find all 6 trigonometric ratios.**

a)



$\sin \theta = \underline{\hspace{2cm}}$

$\csc \theta = \underline{\hspace{2cm}}$

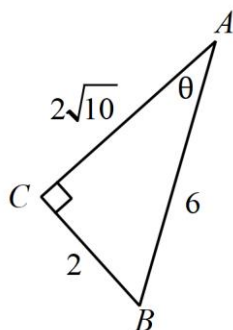
$\cos \theta = \underline{\hspace{2cm}}$

$\sec \theta = \underline{\hspace{2cm}}$

$\tan \theta = \underline{\hspace{2cm}}$

$\cot \theta = \underline{\hspace{2cm}}$

b)



$\sin \theta = \underline{\hspace{2cm}}$

$\csc \theta = \underline{\hspace{2cm}}$

$\cos \theta = \underline{\hspace{2cm}}$

$\sec \theta = \underline{\hspace{2cm}}$

$\tan \theta = \underline{\hspace{2cm}}$

$\cot \theta = \underline{\hspace{2cm}}$