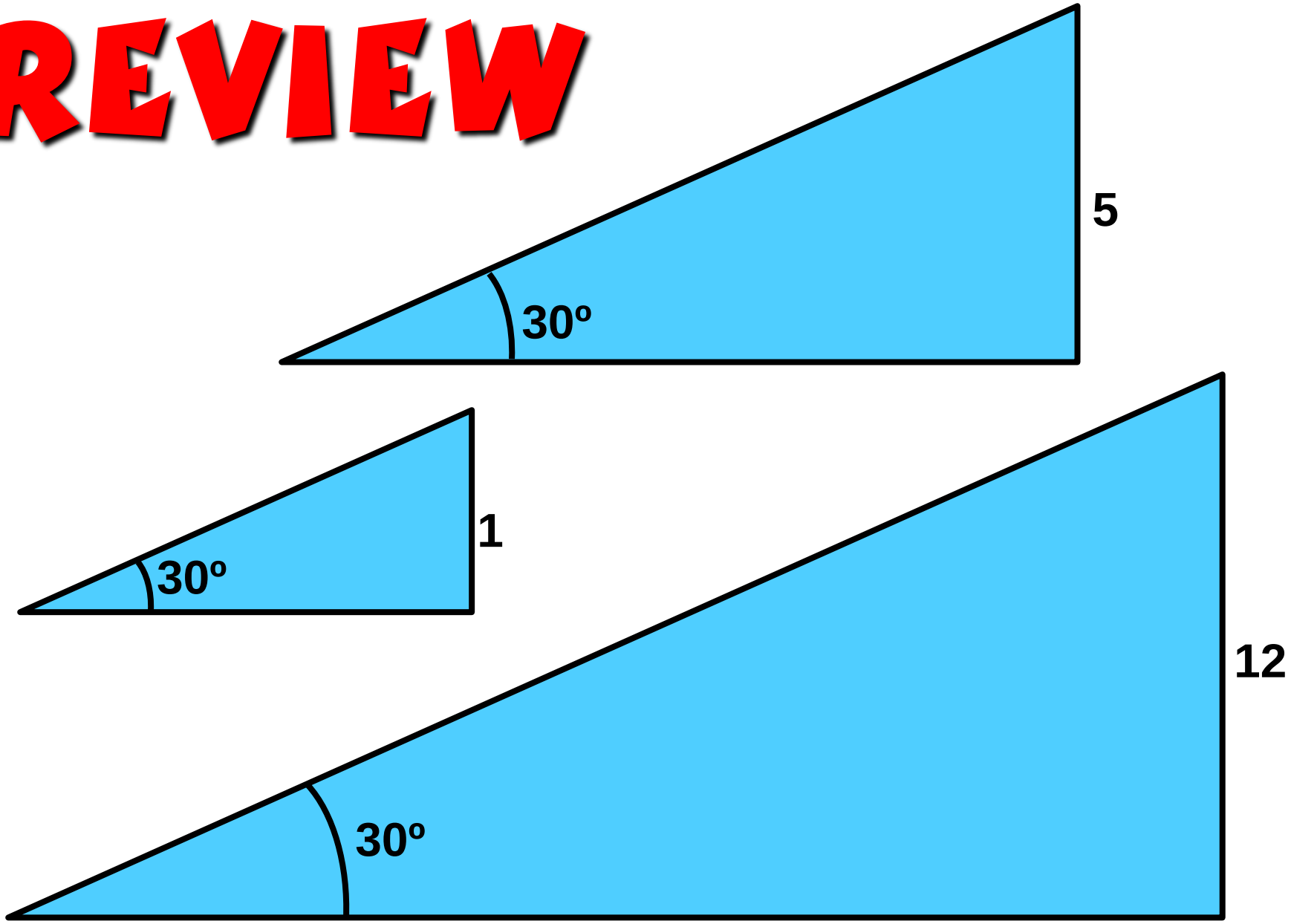
8.7

Tangent, Sine, and Cosine

REVIEW



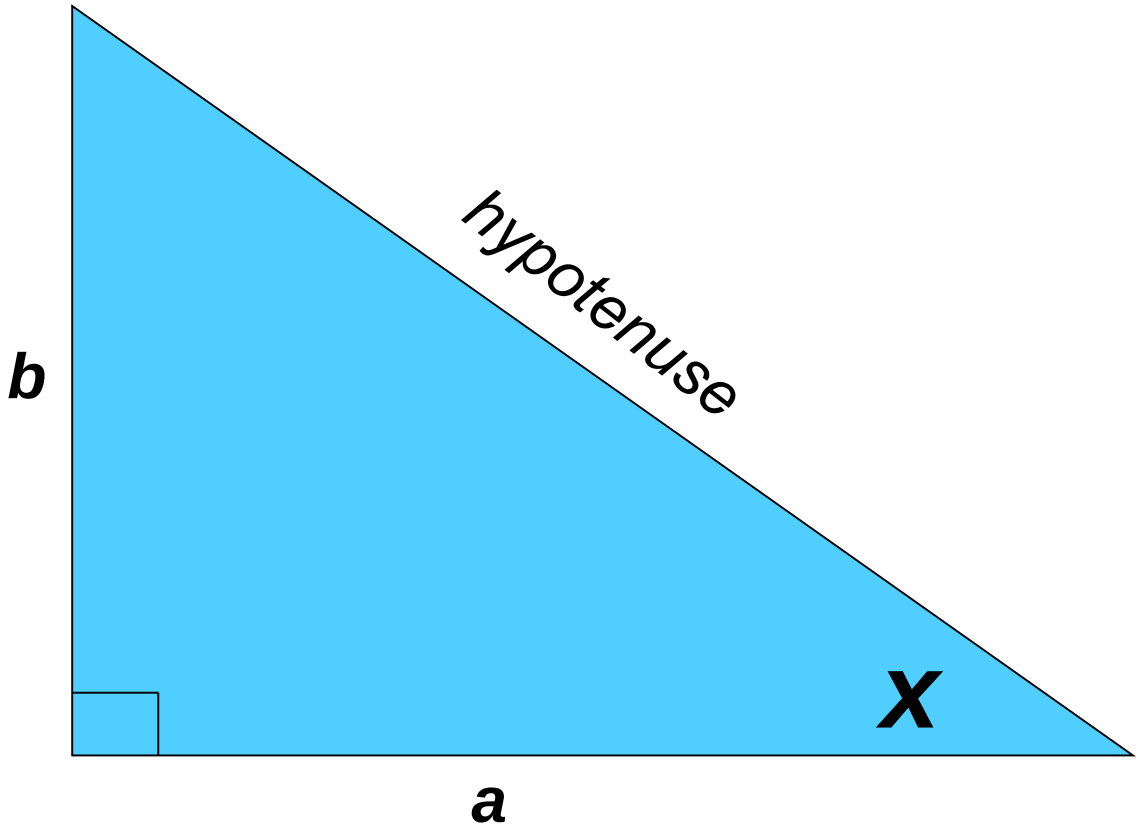
Trigonometry is based upon 3 basic ratios showing the relationship of right triangle sides and their angles.

As you can see from our example with a 30-60-90 triangle.

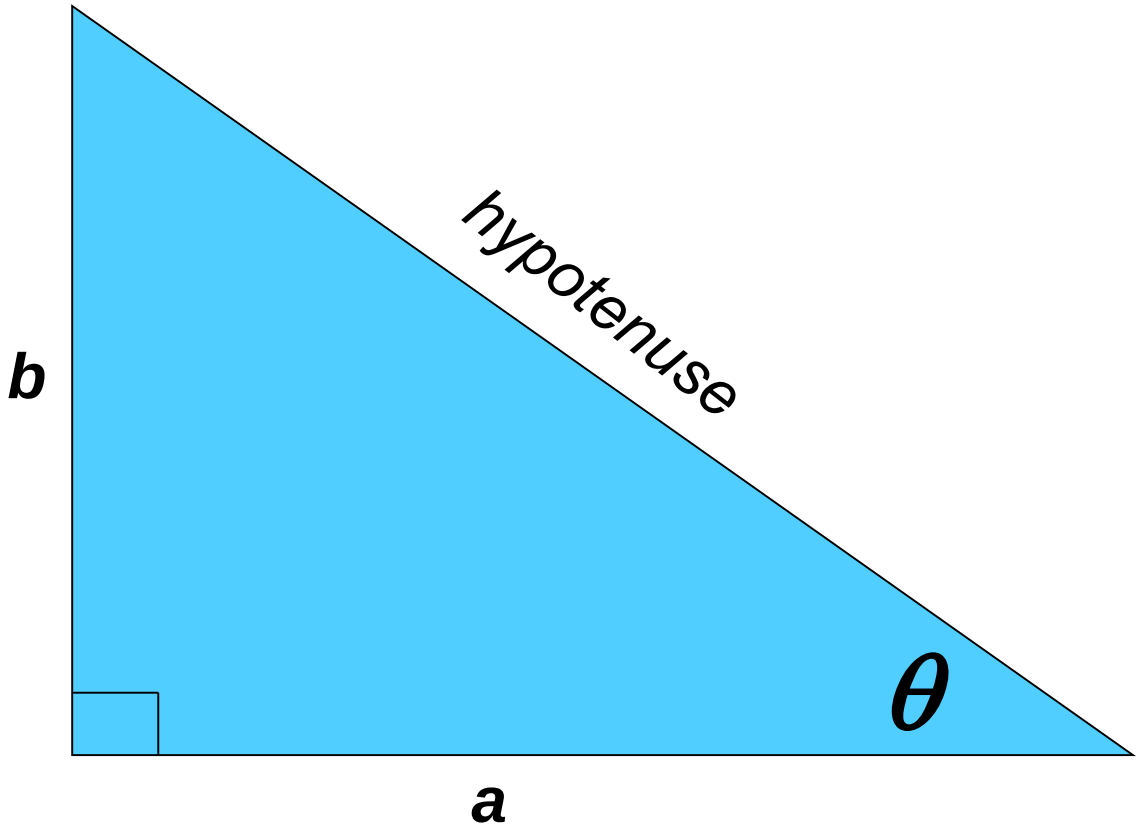
No matter what the size of the right triangle, the, the ratio of the side opposite of 30º and the hypotenuse stays the same.

This is important to know to figure out missing sides and angles in many right triangles.

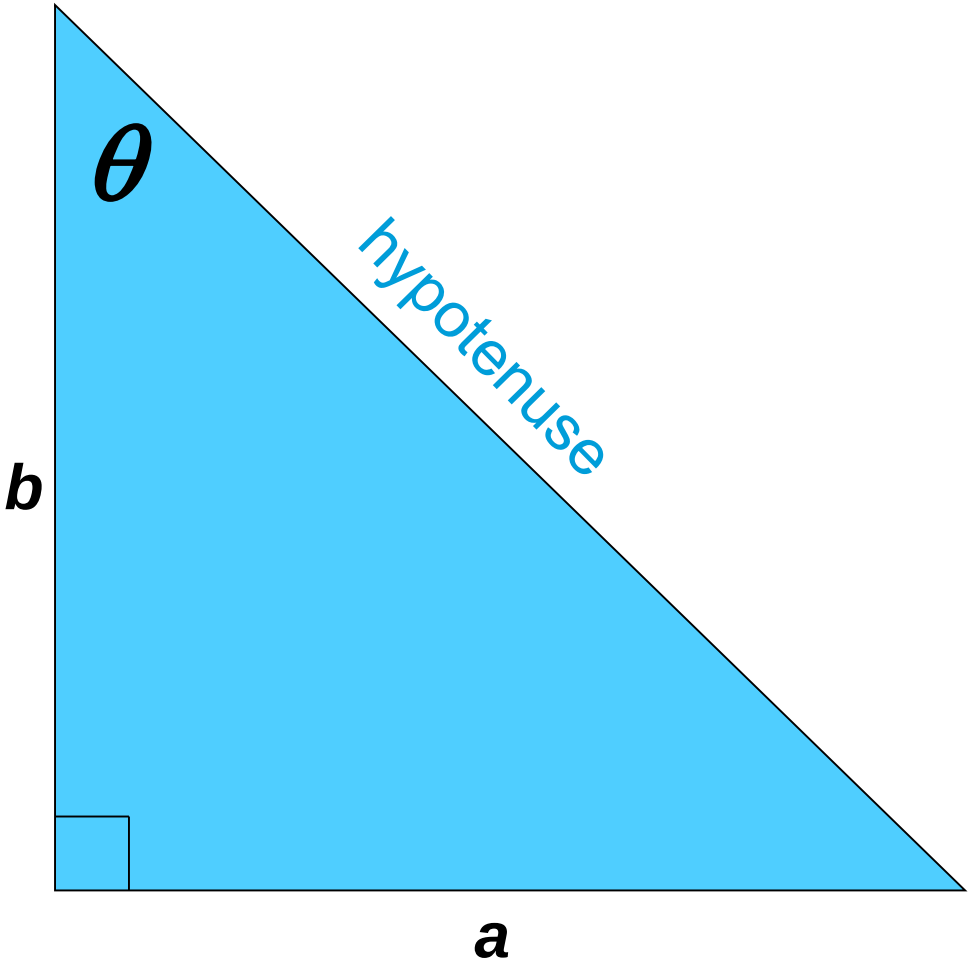
UNDERSTANDING TERMINOLOGY



UNDERSTANDING TERMINOLOGY



UNDERSTANDING TERMINOLOGY



The 3 basic ratios are the following:

SINE

COSINE

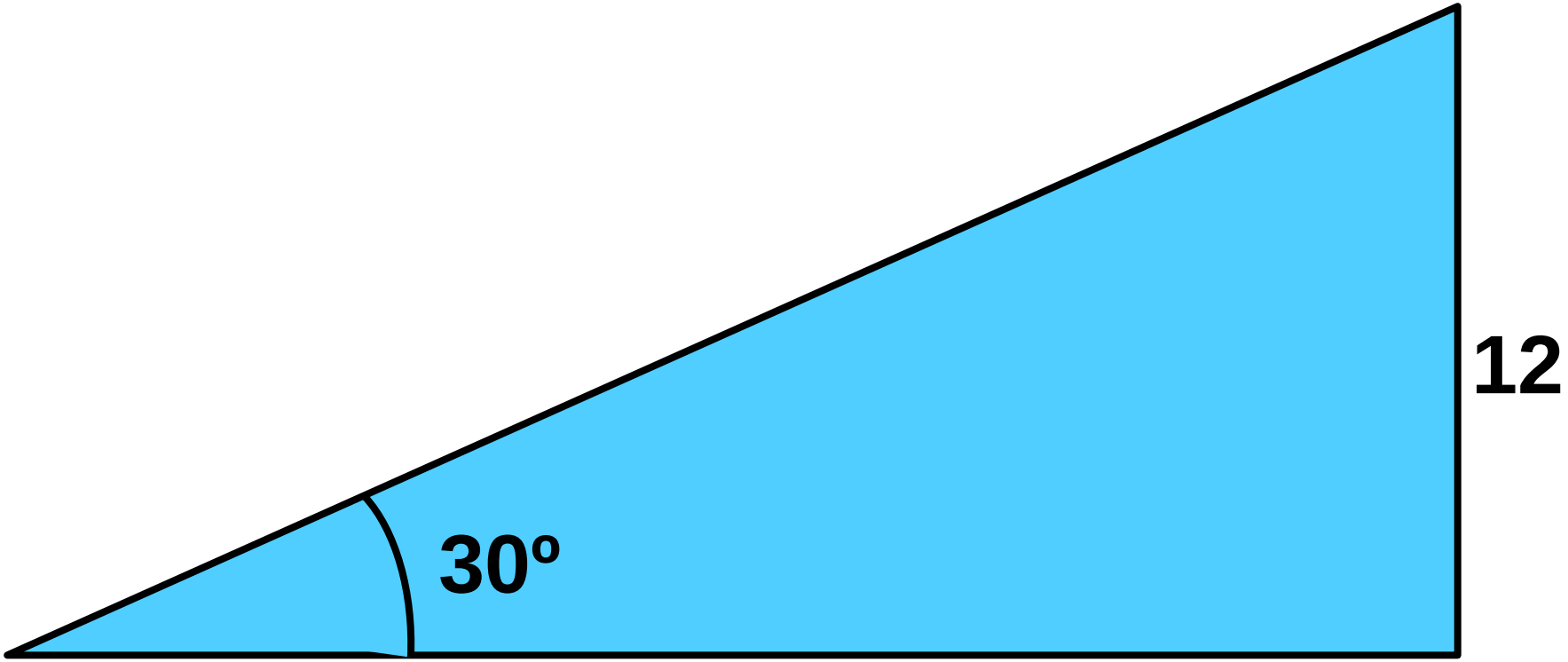
TANGENT

They are abbreviated using their first 3 letters

$\sin\theta =$ ————————

$\cos\theta =$ ————————

$\tan\theta =$ ————————


30º
12

$\sin\theta = \frac{\quad}{\quad}$

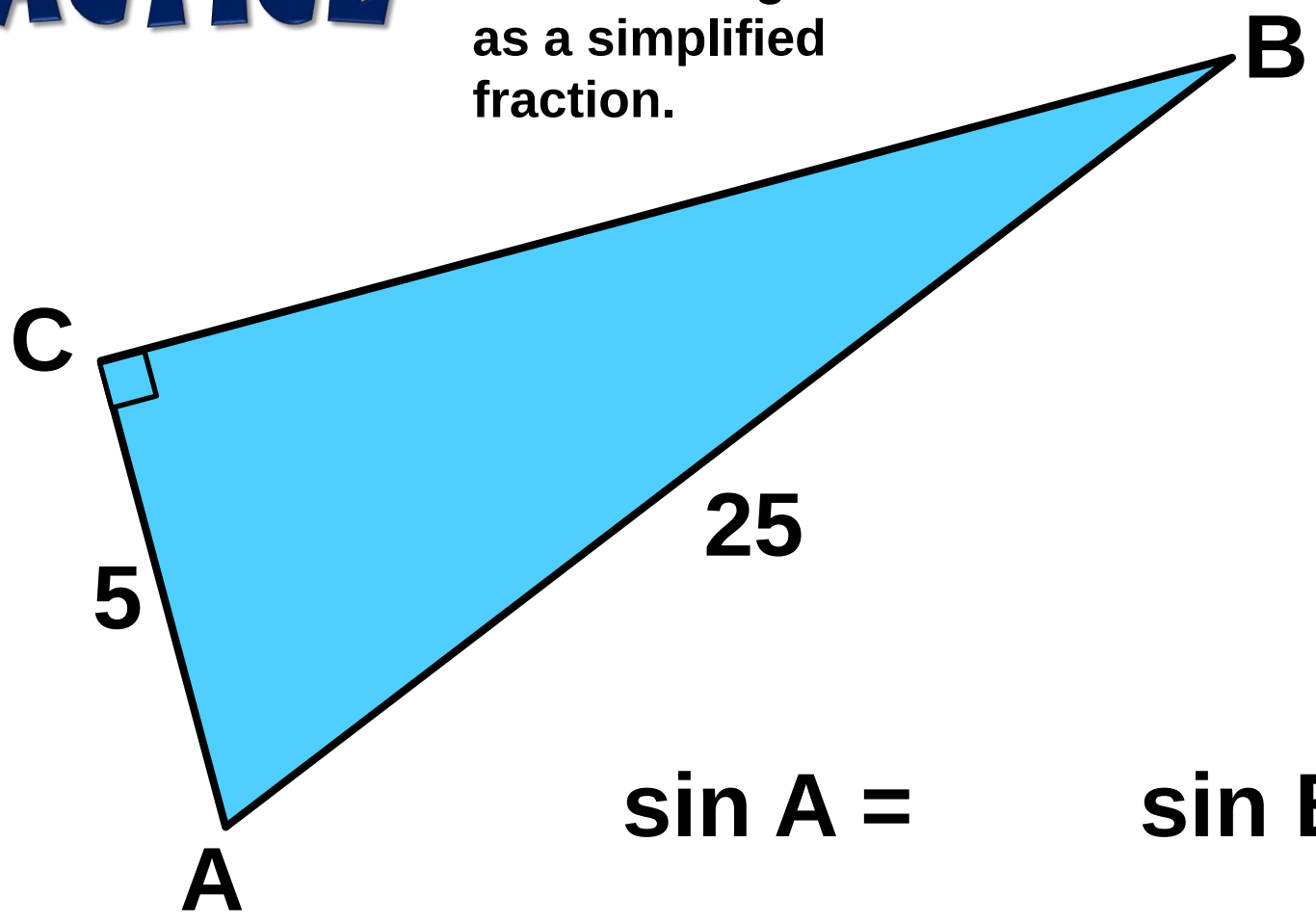
$\cos\theta = \frac{\quad}{\quad}$

SOHCAHTOA

$\tan\theta = \frac{\quad}{\quad}$

PRACTICE

State the trig ratio as a simplified fraction.



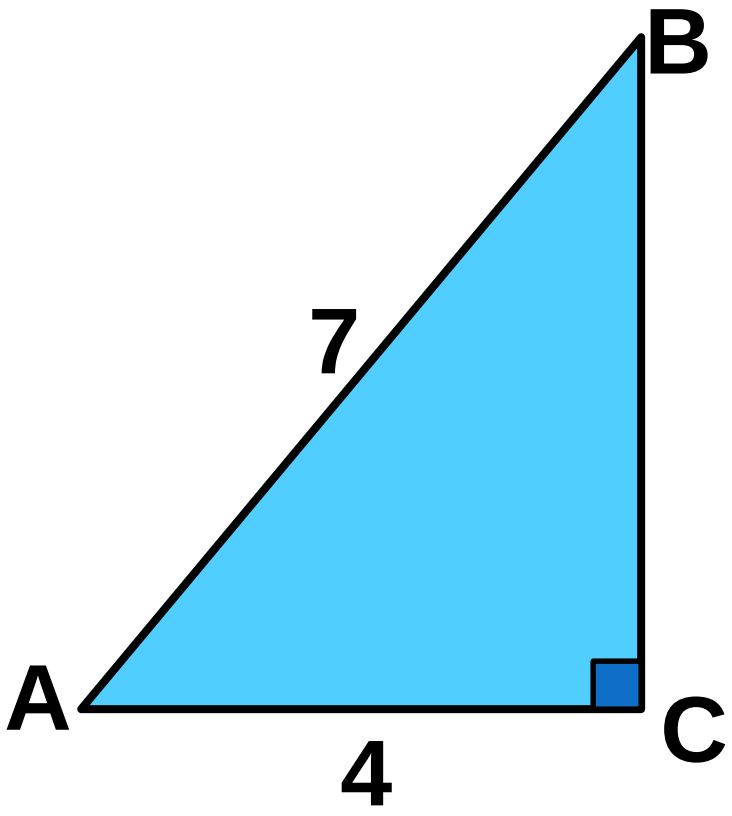
sin A = **sin B =**

cos A = **cos B =**

tan A = **tan B =**

PRACTICE

State the trig ratio as a simplified fraction (exact form) and as a decimal rounded to 4 decimal places.



$\sin A = \qquad = .$

$\cos A = \qquad = .$

$\tan A = \qquad = .$

TRIGONOMETRIC RATIO TABLES

PRACTICE

Using your trigonometric table, find the decimal value of the following:

$\sin 32° =$

$\cos 65° =$

$\tan 12° =$

PRACTICE

Using your trigonometric table, find the degree measure closest to the given ratio:

$\cos x = 0.9650$

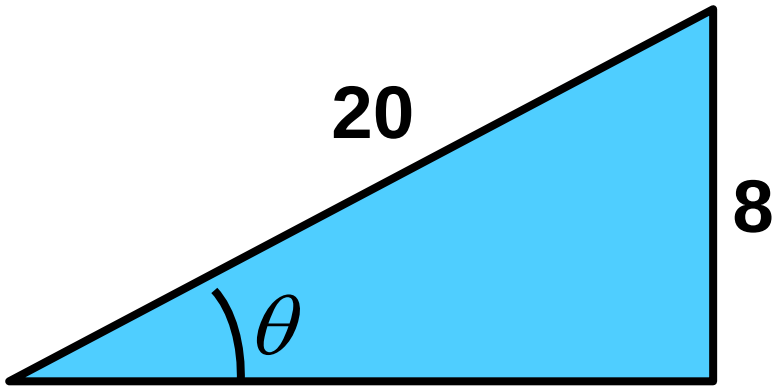
$\tan \theta = 1.8123$

$\sin \theta = 0.8003$

$\sin \theta = 5/8$

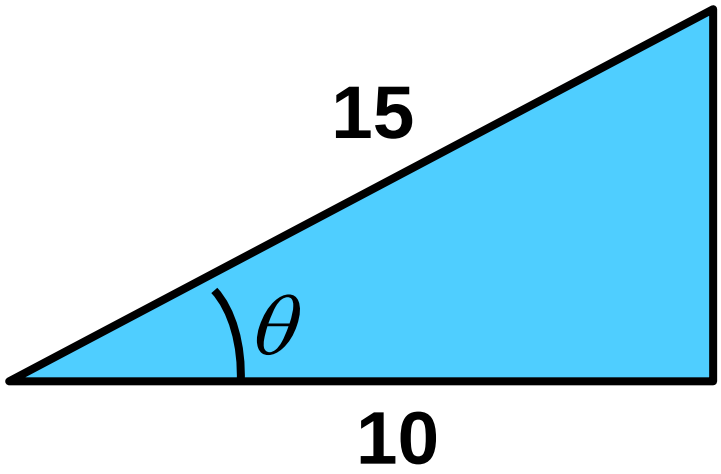
PRACTICE

Using your calculator, find the degree measure closest to the given ratio:



PRACTICE

Using your calculator, find the degree measure closest to the given ratio:



PRACTICE

Using your calculator, find the degree measure closest to the given ratio: