

## 8 - 4

# Trigonometry

## Right Triangle Trigonometry

*Trigonometric comparison between two specific sides and an angle within a right triangle.*

**SOH - CAH - TOA**

**S**in of a specific angle = side **O**pposite the angle divided by the **H**ypotenuse

**C**os of a specific angle = side **A**djacent to the angle divided by the **H**ypotenuse

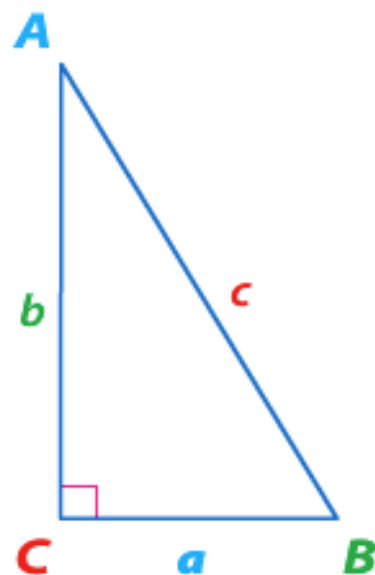
**T**an of a specific angle = side **O**pposite to the angle divided by the side **A**djacent to the angle

▲ ▲

# SOH

$$\sin A = \frac{\text{opp}}{\text{hyp}} \text{ or } \frac{a}{c}$$

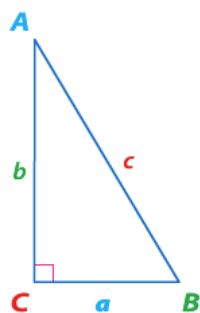
$$\sin B = \frac{\text{opp}}{\text{hyp}} \text{ or } \frac{b}{c}$$



# CAH

$$\cos A = \frac{\text{adj}}{\text{hyp}} \text{ or } \frac{b}{c}$$

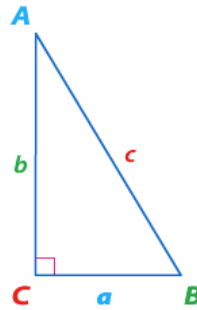
$$\cos B = \frac{\text{adj}}{\text{hyp}} \text{ or } \frac{a}{c}$$



# TOA

$$\tan A = \frac{\text{opp}}{\text{adj}} \text{ or } \frac{a}{b}$$

$$\tan B = \frac{\text{opp}}{\text{adj}} \text{ or } \frac{b}{a}$$

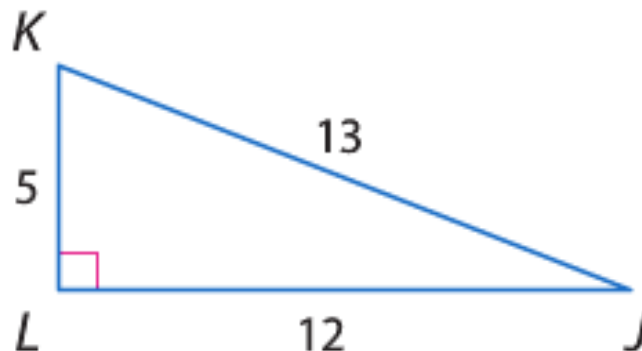


Use the triangle below to find the following trigonometric ratios.

1) Sin K

2) Cos J

3) Tan K

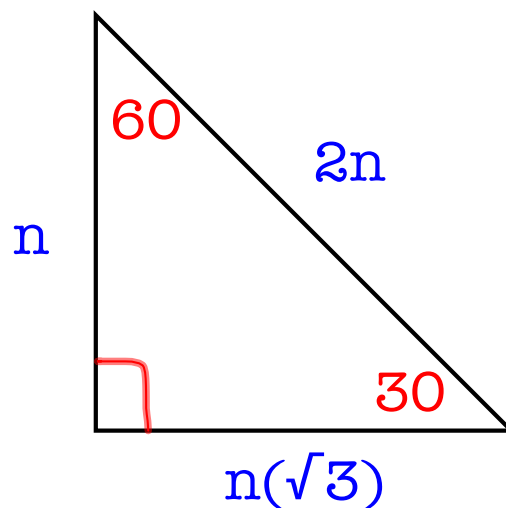


## Using Special Triangles

1)  $\sin 30 =$

2)  $\tan 60 =$

3)  $\cos 60 =$

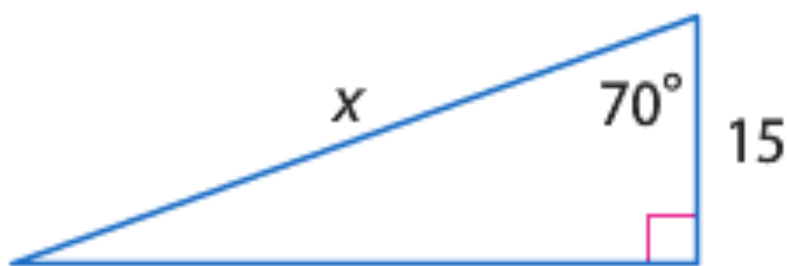


## Using all other Right Triangles

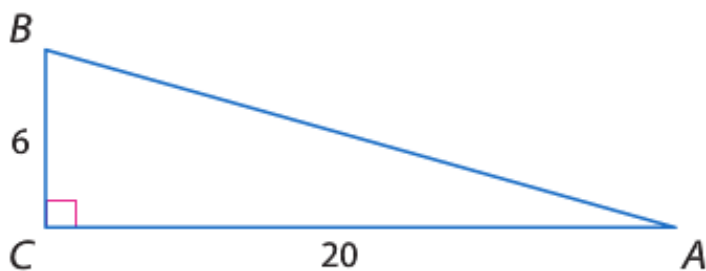
*Set up a Trig Ratio to solve for the missing side.*



Set up a Trig Ratio to solve for the missing side.



Set up a Trig Ratio to solve for the missing **angles**.



Set up a Trig Ratio to solve for the missing **angles**.

