

Bell Ringer!

► What are the formulas for :

a. $\sin(?) =$

b. $\cos(?) =$

c. $\tan(?) =$

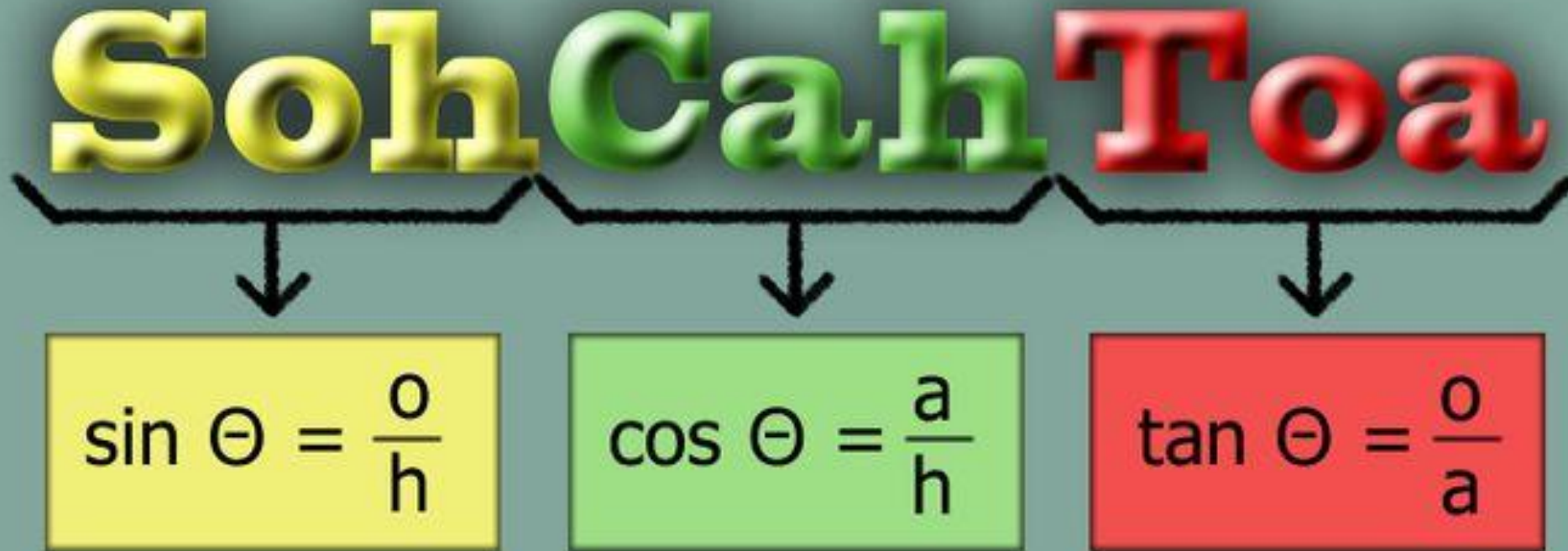
Pre-class reminders:

1. Grab your calculators
2. Get out your notebooks
3. Put away phones/ headphones



Finding Lengths of Sides in A Right Triangle

Formulas:



When to use: SOH

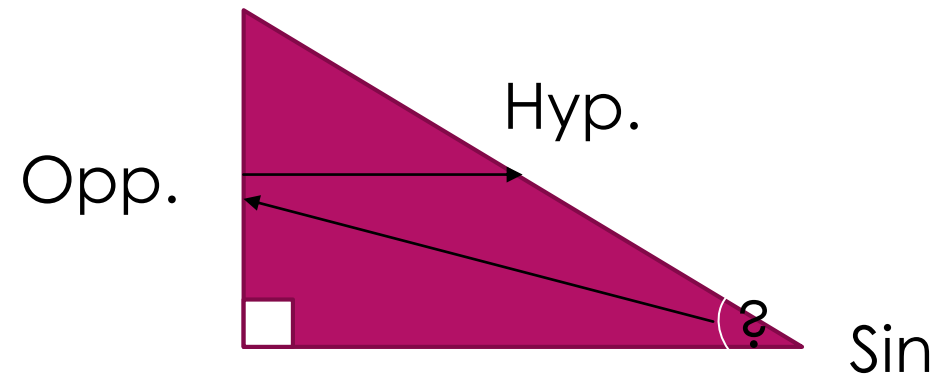
▶ $\sin(?) = \text{Opposite} / \text{Hypotenuse}$

Looking for Opposite:

▶ $\text{Opposite} = \sin(?) * (\text{Hypotenuse})$

Looking for Hypotenuse:

▶ $\text{Hypotenuse} = \text{Opposite} / \sin(?)$



When to use: CAH

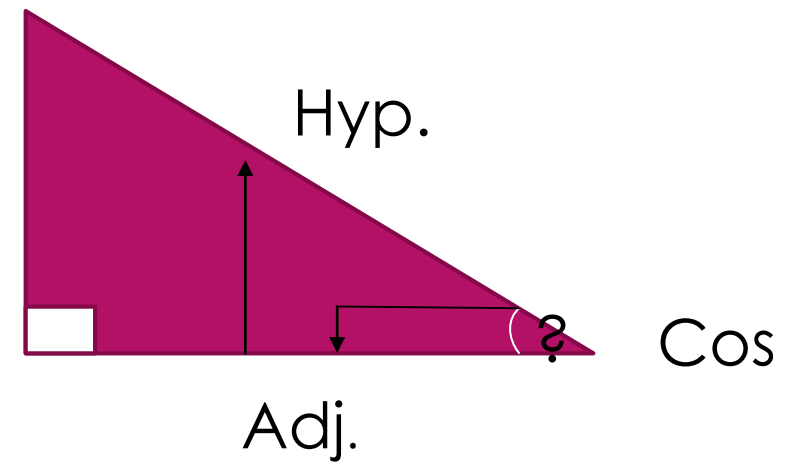
- ▶ $\text{Cos}(\theta) = \text{Adjacent} / \text{Hypotenuse}$

Looking for Adjacent:

- ▶ $\text{Adjacent} = \text{Cos}(\theta) * (\text{Hypotenuse})$

Looking for Hypotenuse:

- ▶ $\text{Hypotenuse} = \text{Adjacent} / \text{Cos}(\theta)$



When to use: TOA

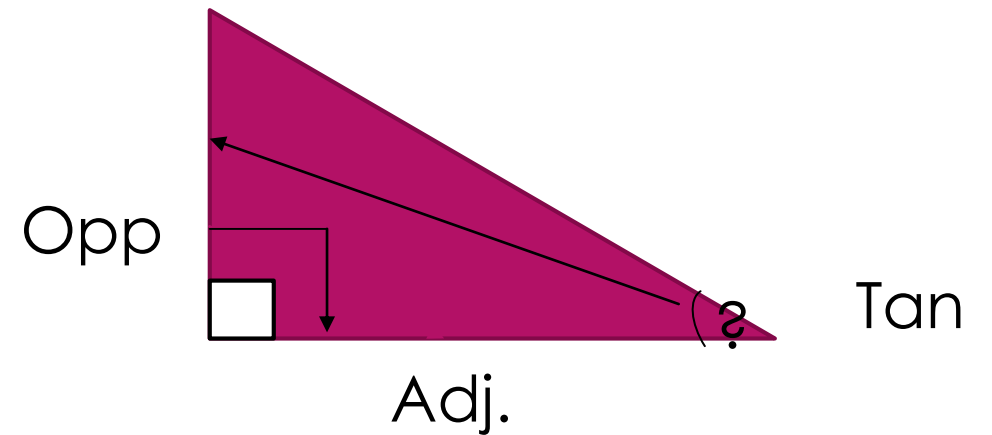
▶ $\tan(\theta) = \text{Opposite} / \text{Adjacent}$

Looking for Opposite:

▶ $\text{Opposite} = \tan(\theta) * \text{Adjacent}$

Looking for Adjacent:

▶ $\text{Adjacent} = \text{Opposite} / \tan(\theta)$



Ways to double-check your answers!

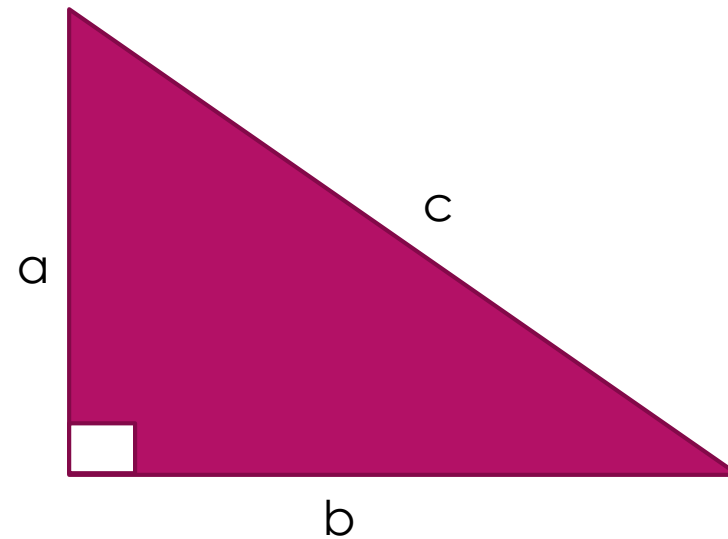
► Pythagorean Theorem:

$$a^2 + b^2 = c^2$$

a= Adj. Side

b= Opp. Side

c= Hyp. Side



GeoGebra

▶ <https://www.geogebra.org/m/y4ur5pfc>

Closing Activity – Exit Ticket

- ▶ On a blank sheet of paper:
 1. What are the 3 formulas we used to find side lengths?
 2. What do you believe would happen if we used two different formulas to try and find the same side?
 - Would the sides come out the same size? Different size? Explain.