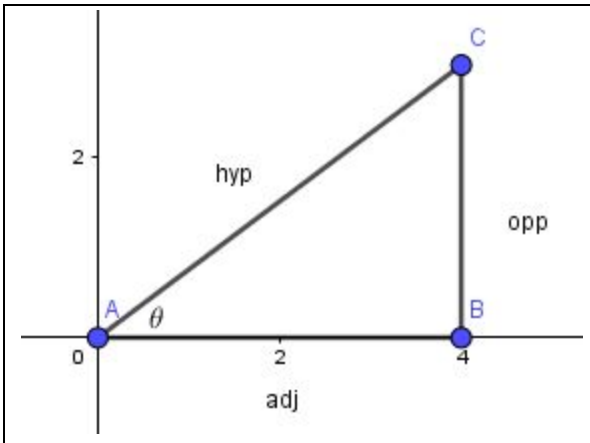
Class Discussion

Unit 4 Topic 3 Part 1 Right Triangle Trigonometry 1

Objective: Define 6 trigonometrical ratio in the context of a right triangle



$\sin\theta = \frac{opp}{hyp}$
$\cos\theta = \frac{adj}{hyp}$
$\tan\theta = \frac{opp}{adj}$
$\cot\theta = \frac{adj}{opp}$
$\sec\theta = \frac{hyp}{adj}$
$\csc\theta = \frac{hyp}{opp}$

Ex1 Let $0 \le \theta < \frac{\pi}{2}$, $\sin\theta = \frac{8}{17}$, find $\tan\left(\frac{\pi}{2} - \theta\right)$?

Ex2 A lighthouse is 100 feet tall. John was on the top of the lighthouse, he saw a boat with an angle of depression of 4°, after 20 minutes the angle of depression of the same boat is 7° (a) is the boat moving towards the lighthouse or away from the lighthouse?(b) what is the speed of the boat in mph (1 mile = 5280 feet)