

## the h-bar Palladium

a Math + Science Newsletter

Issue 3 05/15/15 all the news that's fit to fprintf



The geometric definitions

education

Why do secant and tangent always show up together in trigonometry and calculus? To start to see why, let's go back to the geometry. Recall that a tangent line touches one point on a circle at a right angle and a secant line dissects a circle.

Now, let  $\sec \theta$  be the length of the line segment from the origin to the tangent line and let  $\tan \theta$  be the length of the line segment from the point of tangency to the secant line.

Notice that for  $\theta = 90^\circ$ , both of these measures approach infinity. Also, use the CAH in SOH-CAH-TOA to understand why  $\sec \theta = 1/\cos \theta$  follows from this more basic geometric definition.

Apply the Pythagorean Theorem to see

 $\sec^2 \theta = 1 + \tan^2 \theta$ 





## First Physics webinar are now up and running.

We will soon release Sigma vs Python, a story based interactive iBook to supplement a more traditional Algebra 1 curriculum.

As always, please feel free to contact us:

hbartutoring@gmail.com 626 - 375 - 0575

PO Box 60244 Pasadena, CA 91106





Throop Unitarian Universalist Church 300 S Los Robles Ave, Pasadena, CA 91101

Updates from *h-bar* 

We've been busy! We are happy to announce some

successful starts: Algebra Bootcamp classes and our