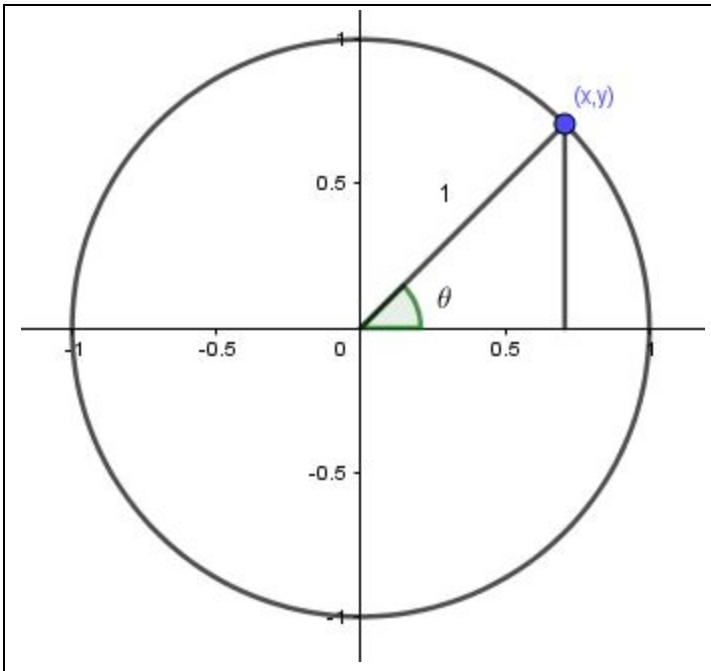
Class Discussion

Unit 4 Topic 2 Part 2 The Unit Circle 2

Objective: definition of 6 trigonometrical functions with unit circle.



For all 6 functions only two are even:

$\cos\theta = \cos(-\theta)$

$\sec\theta = \sec(-\theta)$

$\sin\theta = y$ [sine]

$\cos\theta = x$ [cosine]

$\tan\theta = \frac{y}{x}$ [tangent]

$\cot\theta = \frac{x}{y}$ [cotangent]

$\sec\theta = \frac{1}{x}$ [secant]

$\csc\theta = \frac{1}{y}$ [cosecant]

Ex1: if (a) $\theta = \frac{3\pi}{4}$, (b) $\theta = \frac{2\pi}{3}$ find all values of 6 trigonometric functions?

Ex2: if $\sin\theta = \frac{1}{4}$, find $\cos\left(\theta + \frac{\pi}{2}\right)$

Ex3: (1) if $\tan\theta = \frac{4}{5}$, and $\sec\theta < 0$, find $\csc\theta$ and $\cos\theta$

(2) if $\sec\theta = 2$ and $\sin\theta > 0$ find $\tan\theta$