



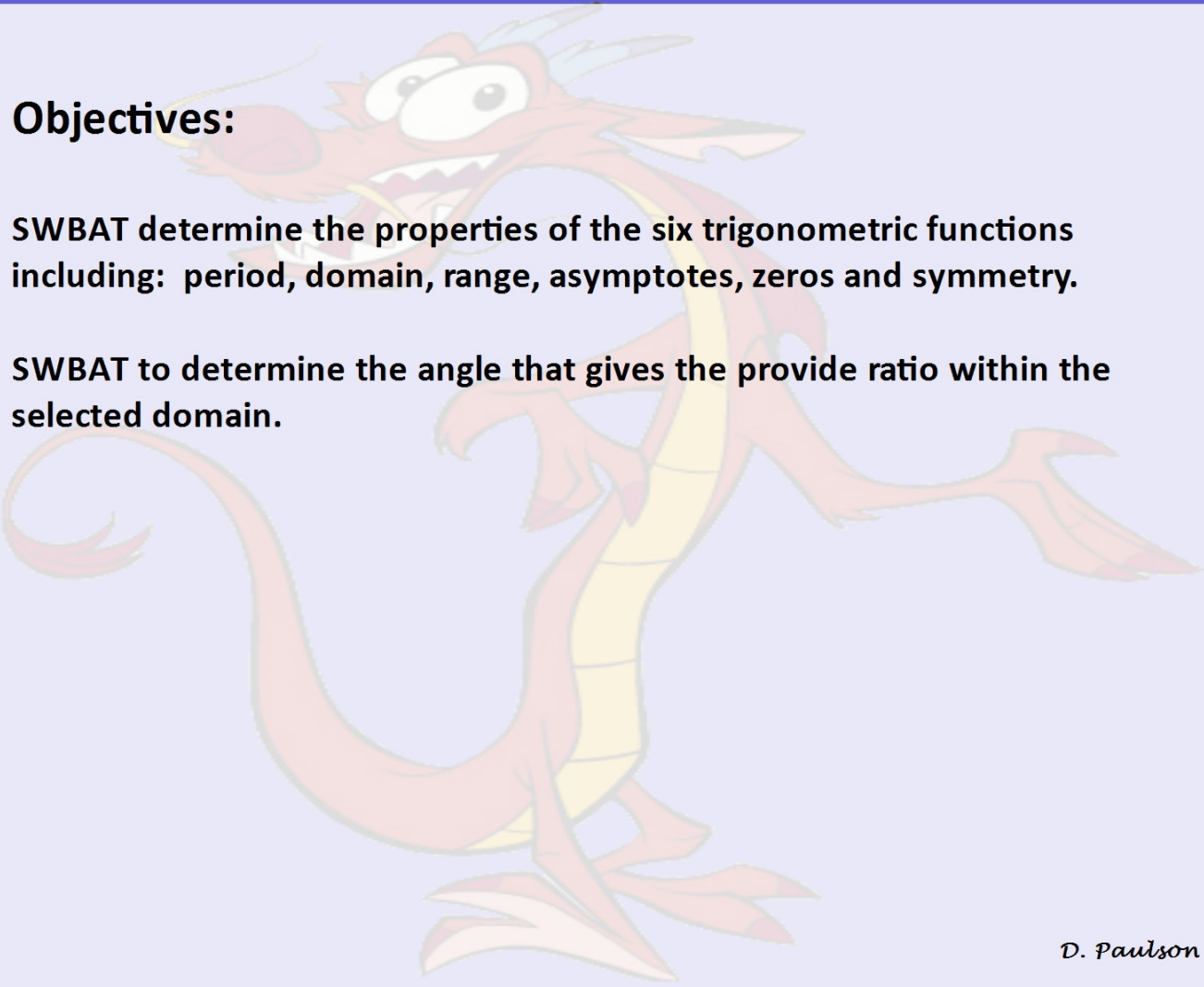
**Precalculus A**

**4.5 Other Trigonometric Graphs**

**Day One**

**Homework: 4.5 Assignment #1**

*D. Paulson*

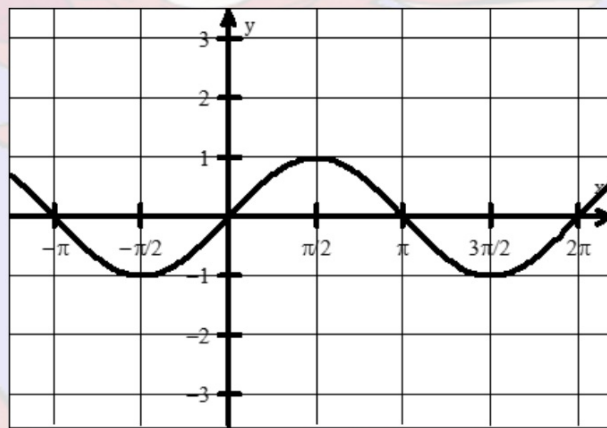


## Objectives:

**SWBAT determine the properties of the six trigonometric functions including: period, domain, range, asymptotes, zeros and symmetry.**

**SWBAT to determine the angle that gives the provide ratio within the selected domain.**

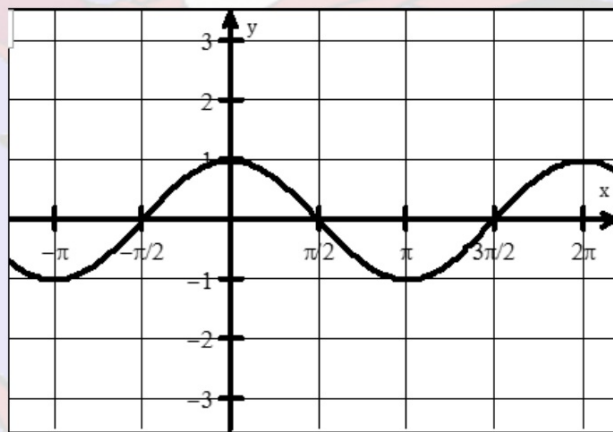
## The Sine Function



$n = \text{integer}$

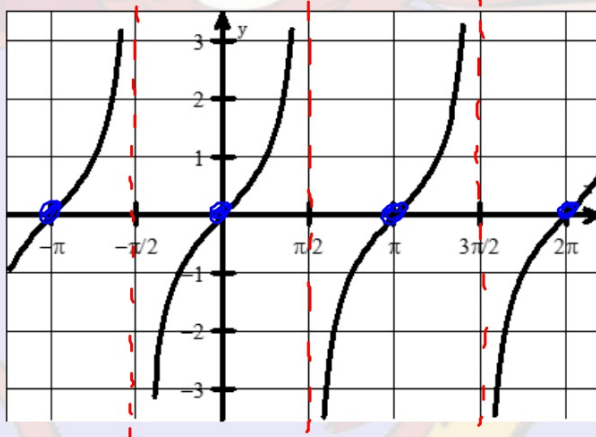
Period	$2\pi$
Domain	$\mathbb{R}$
Range	$[-1, 1]$
Asymptotes	none
Zeros	$n\pi$
Even/Odd	odd

## The Cosine Function



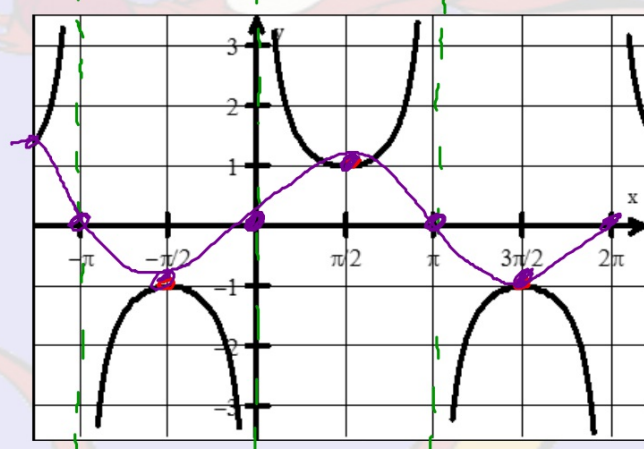
Period	$2\pi$
Domain	$\mathbb{R}$
Range	$[-1, 1]$
Asymptotes	none
Zeros	$\pi/2 + n\pi$
Even/Odd	even

## The Tangent Function



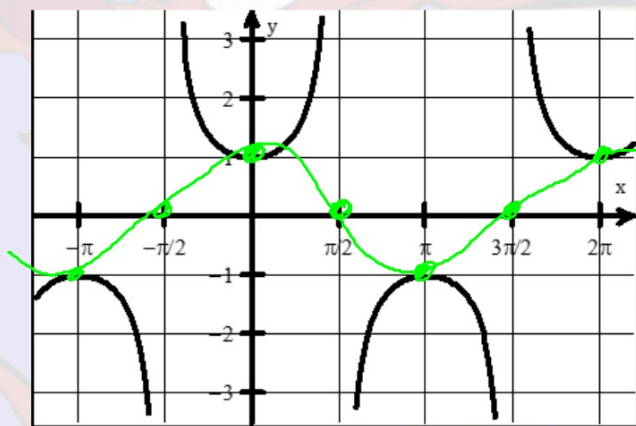
Period	$\pi$
Domain	$\mathbb{R}$ except $x = \frac{\pi}{2} + n\pi$
Range	$\mathbb{R}$
Asymptotes	$x = \frac{\pi}{2} + n\pi$
Zeros	$n\pi$
Even/Odd	odd

## The Cosecant Function



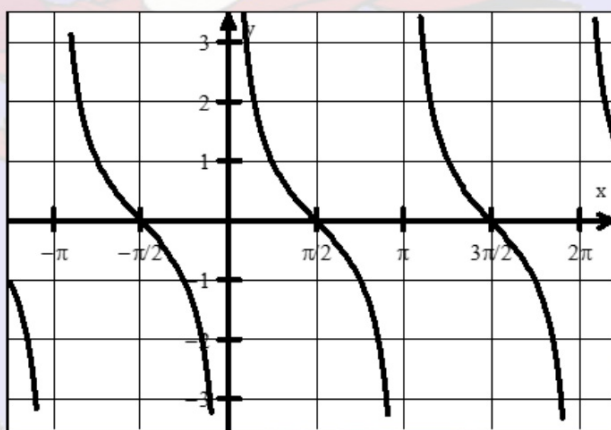
Period	$2\pi$
Domain	$\mathbb{R}$ except $x = n\pi$
Range	$(-\infty, -1] \cup [1, \infty)$
Asymptotes	$x = n\pi$
Zeros	none
Even/Odd	odd

## The Secant Function



Period	$2\pi$
Domain	$\mathbb{R}$ except $x = \pi/2 + n\pi$
Range	$(-\infty; -1] \cup [1; \infty)$
Asymptotes	$x = \pi/2 + n\pi$
Zeros	none
Even/Odd	even

## The Cotangent Function

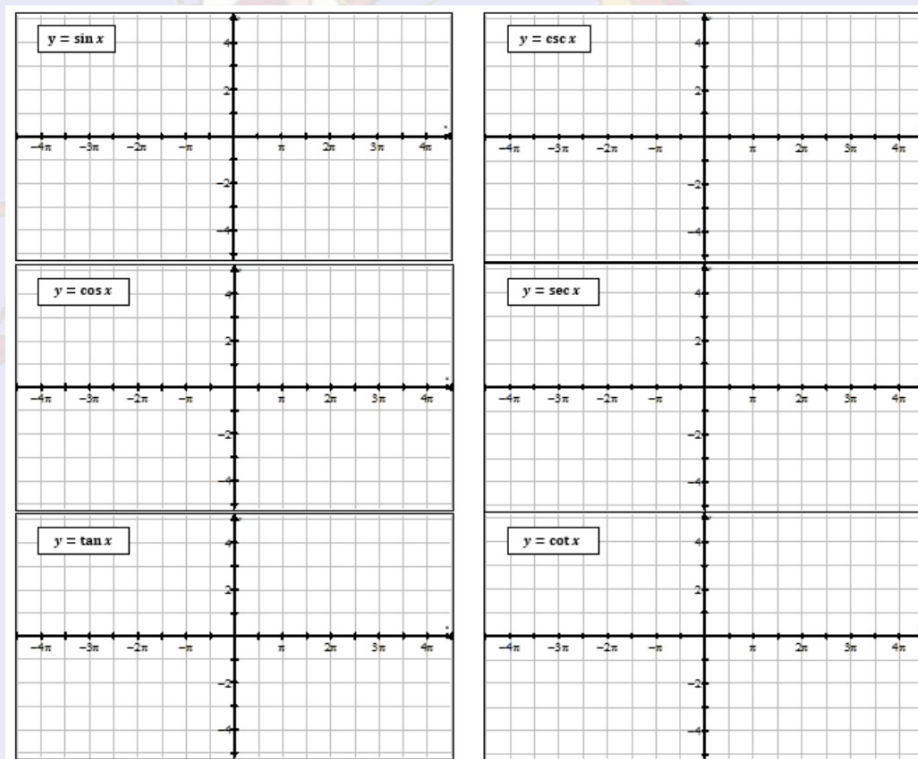


Period	$\pi$
Domain	$\mathbb{R}$ except $x = n\pi$
Range	$\mathbb{R}$
Asymptotes	$x = n\pi$
Zeros	$x = \pi/2 + n\pi$
Even/Odd	odd



## Drawing the Six Circular Functions

Let's practice drawing the six circular functions!



*D. Paulson*