

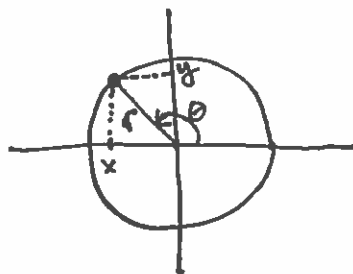
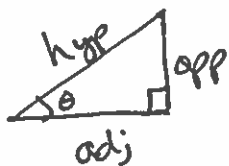
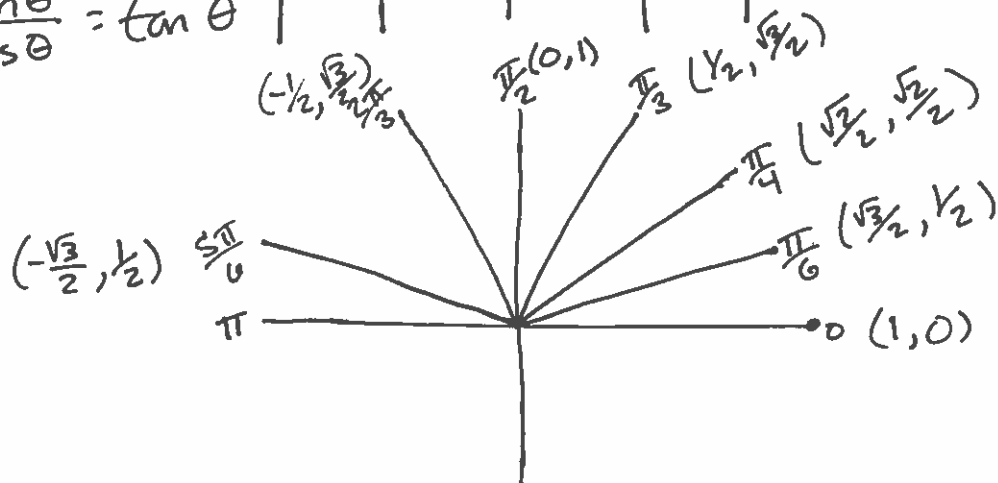
1.3 Trig Functions

* See Blackboard for Reference Guide *

$$\pi \text{ radians} = 180^\circ$$

$$2\pi \text{ radians} = 360^\circ$$

	0	$\pi/6$	$\pi/4$	$\pi/3$	$\pi/2$
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\frac{\sin \theta}{\cos \theta} = \tan \theta$					



$$\text{sine: } \sin \theta = \frac{y}{r} = \sin(\theta)$$

$$\text{cosine: } \cos \theta = \frac{x}{r}$$

$$\text{tangent: } \tan \theta = \frac{y}{x}$$

$$\text{cosecant: } \csc \theta = \frac{r}{y} = \frac{1}{\sin \theta}$$

$$\text{secant: } \sec \theta = \frac{r}{x} = \frac{1}{\cos \theta}$$

$$\text{cotangent: } \cot \theta = \frac{x}{y} = \frac{1}{\tan \theta}$$

Horizontal stretch or compression; if negative reflect over y-axis

$$y = a f(b(x+c)) + d$$

Vertical stretch or compression; if negative, reflect over x-axis

Horizontal shift

Vertical shift

$$f(x) = A \sin\left(\frac{2\pi}{B}(x-c)\right) + D$$

|A| is the amplitude

|B| is the period

C is a horizontal shift

D is a vertical shift