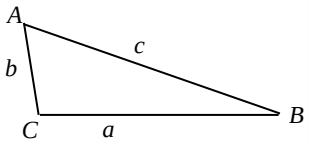
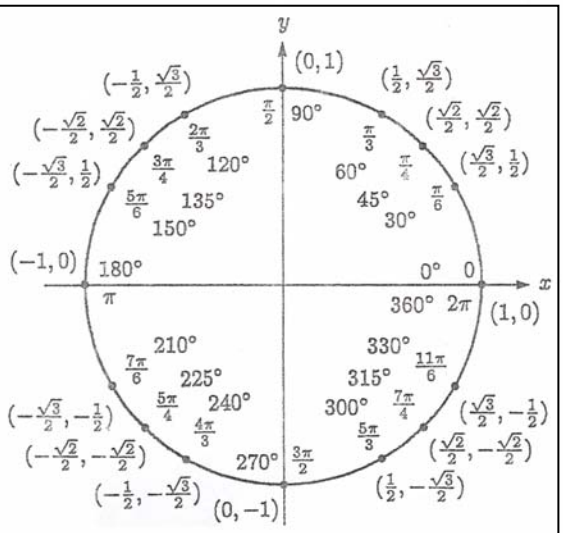
$$c^2 = a^2 + b^2 - 2ab\cos C$$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$





$$\cos^2\theta + \sin^2\theta = 1$$

$$\cos 2\theta = \cos^2\theta - \sin^2\theta$$
$$= 2\cos^2\theta - 1$$
$$= 1 - 2\sin^2\theta$$

$$\sin 2\theta = 2\sin\theta\cos\theta$$

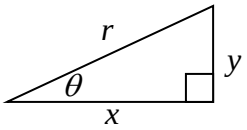
$$\tan\theta = \frac{\sin\theta}{\cos\theta}$$

$$\cot\theta = \frac{\cos\theta}{\sin\theta}$$

$$\sec\theta = \frac{1}{\cos\theta}$$

$$\csc\theta = \frac{1}{\sin\theta}$$

$$\sin(A+B) = \sin A\cos B + \cos A\sin B$$
$$\sin(A-B) = \sin A\cos B - \cos A\sin B$$
$$\cos(A+B) = \cos A\cos B - \sin A\sin B$$
$$\cos(A-B) = \cos A\cos B + \sin A\sin B$$



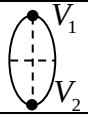
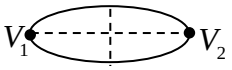
$$\sin\theta = \frac{y}{r}$$

$$\cos\theta = \frac{x}{r}$$

$$\tan\theta = \frac{y}{x}$$

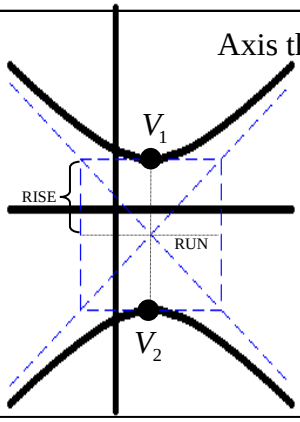
$$\sum_{i=0}^{n} ar^i = a + ar^1 + ar^2 + ar^3 + \cdots + ar^{n-1} + ar^n = \frac{a(1-r^{n+1})}{1-r}$$

$$\sum_{i=0}^{\infty} ar^i = a + ar^1 + ar^2 + ar^3 + \cdots + ar^n + \cdots = \frac{a}{1-r} \text{ if } -1 < r < 1$$

Ellipse Information with center (*h*, *k*) (Circle has *RISE* = *RUN*)		
	Vertical Major Axis	Horizontal Major axis
Implicit equation	$\frac{(x-h)^2}{RUN^2} + \frac{(y-k)^2}{RISE^2} = 1$	
Parametric equations	$x = RUN\cos t + h$ $y = RISE\sin t + k$	or variants of these
Major or Minor axis	RISE > RUN 	RUN > RISE 

Hyperbola Information with center (*h*, *k*)

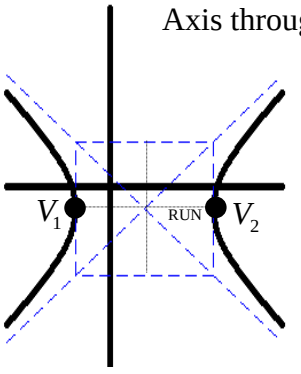
Axis through Vertices is Vertical



$$\frac{(y-k)^2}{RISE^2} - \frac{(x-h)^2}{RUN^2} = 1$$

$$x = RUN\tan t + h$$
$$y = RISE\sec t + k$$

Axis through Vertices is Horizontal



$$\frac{(x-h)^2}{RUN^2} - \frac{(y-k)^2}{RISE^2} = 1$$

$$x = RUN\sec t + h$$
$$y = RISE\tan t + k$$