

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

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

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

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

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

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

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

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

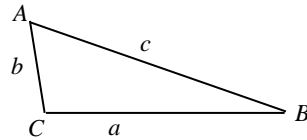
$$\sin(A-B) = \sin A \cos B - \cos A \sin B$$

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

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

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

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

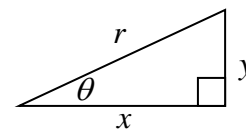
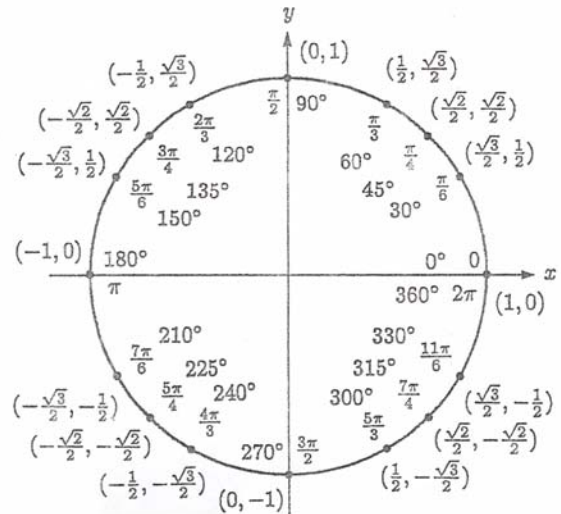


$$\tan \theta = \frac{\sin \theta}{\cos \theta}$$

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

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

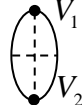

$$\csc \theta = \frac{1}{\sin \theta}$$

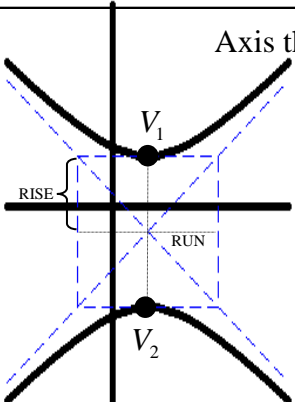
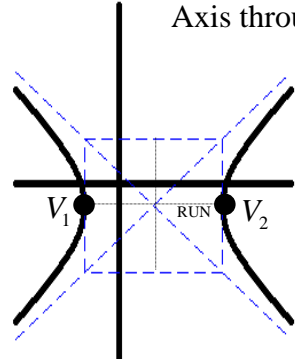


$$\sin \theta = \frac{y}{r}$$

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

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

Ellipse Information with center (h, k) (Circle has <i>RISE = RUN</i>)		
	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	Axis through Vertices is Horizontal
	
$\frac{(y-k)^2}{RISE^2} - \frac{(x-h)^2}{RUN^2} = 1$ $x = RUN \tan t + h$ $y = RISE \sec t + k$	$\frac{(x-h)^2}{RUN^2} - \frac{(y-k)^2}{RISE^2} = 1$ $x = RUN \sec t + h$ $y = RISE \tan t + k$