

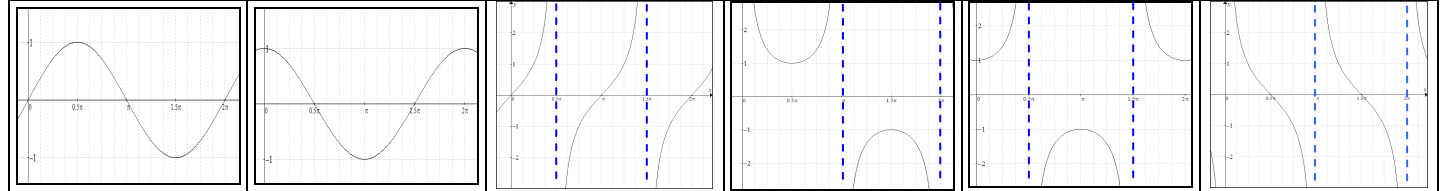
Trig. Ratios of Special Angles								Limits of Trig		CAST rules ∂ & θ are acute angles	
	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$			
sin	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	0	1	0	-1	$\lim_{x \rightarrow 0} \frac{\sin mx}{nx} = \lim_{x \rightarrow 0} \frac{\sin mx}{\sin nx} = \frac{m}{n}$			
cos	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	1	0	-1	0	$\lim_{x \rightarrow 0} \frac{\cos x - 1}{x} = 0$			
tan	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	0	NA	0	NA	$\lim_{x \rightarrow 0} \sin x = 0$			
	30°	45°	60°	$0^\circ/360^\circ$	90°	180°	270°	$\lim_{x \rightarrow 0} \cos x = 1$			
								$\lim_{x \rightarrow 0} \tan x = 0$			

Derivative Rules of Trig		Reciprocal Identities		Quotient Identities		Pythagorean Identities	
$\frac{d(\sin x)}{dx} = \cos x$	$\frac{d(\csc x)}{dx} = -\csc x \cot x$	$\csc \theta = \frac{1}{\sin \theta}$	$\tan \theta = \frac{\sin \theta}{\cos \theta}$	$\sin^2 \theta + \cos^2 \theta = 1$		$\sin^2 \theta = 1 - \cos^2 \theta$	
$\frac{d(\cos x)}{dx} = -\sin x$	$\frac{d(\sec x)}{dx} = \sec x \tan x$	$\sec \theta = \frac{1}{\cos \theta}$	$\cot \theta = \frac{\cos \theta}{\sin \theta}$	$\cos^2 \theta = 1 - \sin^2 \theta$		$1 + \tan^2 \theta = \sec^2 \theta$	
$\frac{d(\tan x)}{dx} = \sec^2 x$	$\frac{d(\cot x)}{dx} = -\csc^2 x$	$\cot \theta = \frac{1}{\tan \theta}$		$1 + \cot^2 \theta = \csc^2 \theta$			

Related Acute formulas			Addition & Subtraction Formulas			Double Angle formulas		
	sin	cos	tan	$\sin(x+y) = \sin x \cos y + \cos x \sin y$	$\sin 2x = 2 \sin x \cos x$			$\tan 2x = \frac{2 \tan x}{1 - \tan^2 x}$
$\pi - x$	+	-	-	$\sin(x-y) = \sin x \cos y - \cos x \sin y$	$\cos 2x = \cos^2 x - \sin^2 x$			
$\pi + x$	-	-	+	$\cos(x+y) = \cos x \cos y - \sin x \sin y$	$= 2 \cos^2 x - 1$			
$2\pi - x$	-	+	-	$\cos(x-y) = \cos x \cos y + \sin x \sin y$	$= 1 - 2 \sin^2 x$			
$0 - x$	-	+	-					

Corelated Acute formulas			Trigonometric Ratios (Soh Cah Toa)			
	sin	cos	tan	$\sin \theta = \frac{opp}{hyp}$ $\cos \theta = \frac{adj}{hyp}$ $\tan \theta = \frac{opp}{adj}$		
$\frac{\pi}{2} - x$	+	+	+			
$\frac{\pi}{2} + x$	+	-	-			
$\frac{3\pi}{2} - x$	-	-	+			
$\frac{3\pi}{2} + x$	-	+	-			

Half Angle Formulas (Optional)		Product Angle Formulas (Optional)		Sine Law		
$\sin \frac{x}{2} = \pm \sqrt{\frac{1 - \cos x}{2}}$	$\sin a \sin b = \frac{\cos(a-b) - \cos(a+b)}{2}$	$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$		Cosine Law		
$\cos \frac{x}{2} = \pm \sqrt{\frac{1 + \cos x}{2}}$	$\cos a \cos b = \frac{\cos(a+b) + \cos(a-b)}{2}$	$a^2 = b^2 + c^2 - 2bc \cos A$		$b^2 = a^2 + c^2 - 2ac \cos B$		
$\tan \frac{x}{2} = \pm \sqrt{\frac{1 - \cos x}{1 + \cos x}}$	$\tan a \tan b = \frac{\cos(a-b) - \cos(a+b)}{\cos(a+b) + \cos(a-b)}$	$a^2 = b^2 + c^2 - 2ab \cos C$				



$y = \sin x$	$y = \cos x$	$y = \tan x$	$y = \csc x$	$y = \sec x$	$y = \cot x$
D: $x \in \mathbb{R}$	D: $x \in \mathbb{R}$	D: $x \neq \frac{(2n+1)\pi}{2}$	D: $x \neq n\pi$	D: $x \neq \frac{(2n+1)\pi}{2}$	D: $x \neq n\pi$
R: $-1 \leq y \leq 1$	R: $-1 \leq y \leq 1$	R: $y \in \mathbb{R}$	R: $y \leq -1$ or $y \geq 1$	R: $y \leq -1$ or $y \geq 1$	R: $y \in \mathbb{R}$
Period = 2π	Period = 2π	Period = π	Period = 2π	Period = 2π	Period = π
		VA: $x = \frac{(2n+1)\pi}{2}$	VA: $x = n\pi$	VA: $x = \frac{(2n+1)\pi}{2}$	VA: $x = n\pi$
		$n \in \mathbb{I}$	$n \in \mathbb{I}$	$n \in \mathbb{I}$	$n \in \mathbb{I}$