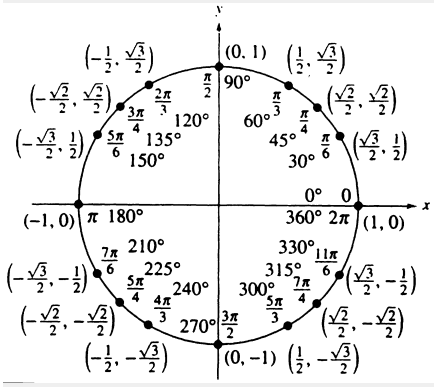
Cheatography

Algebra 2 Final Cheat Sheet

by nshea via cheatography.com/21909/cs/4345/

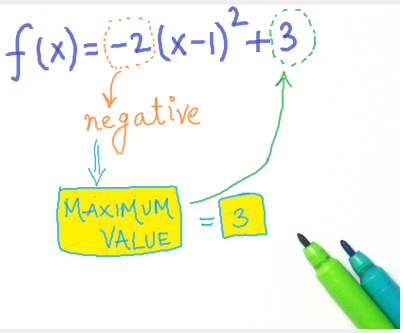
Unit Circle



Quadratic formula

Inverse of a function

Maximum and Minimum



Solving exponential equations

Pythagorean Identities

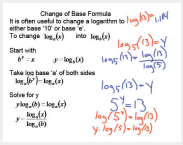
Pythagorean Identities	Reciprocal Identities		Quotient Identities	Periodic Identities
$\sin^2 x+\cos^2 x=1$ $\sin^2 x=1-\cos^2 x$ $\cos^2 x=1-\sin^2 x$	$\sin x=\frac{1}{\csc x}$	$\csc x=\frac{1}{\sin x}$	$\tan x=\frac{\sin x}{\cos x}$	$\sin(x+360°)=\sin x$ $\sin(x+2\pi)=\sin x$
$\tan^2 x+1=\sec^2 x$ $\tan^2 x=\sec^2 x-1$	$\cos x=\frac{1}{\sec x}$	$\sec x=\frac{1}{\cos x}$	$\cot x=\frac{\cos x}{\sin x}$	$\cos(x+360°)=\cos x$ $\cos(x+2\pi)=\cos x$
$1+\cot^2 x=\csc^2 x$ $\cot^2 x=\csc^2 x-1$	$\tan x=\frac{1}{\cot x}$	$\cot x=\frac{1}{\tan x}$		$\tan(x+180°)=\tan x$ $\tan(x+\pi)=\tan x$

Even/Odd Identities		Cofunction Identities		Half Angle Identities
$\sin(-x)=-\sin x$	$\csc(-x)=-\csc x$	$\sin(90°-x)=\cos x$ $\sin(\frac{\pi}{2}-x)=\cos x$	$\cos(90°-x)=\sin x$ $\cos(\frac{\pi}{2}-x)=\sin x$	$\sin\frac{x}{2}=\pm\sqrt{\frac{1-\cos x}{2}}$
$\cos(-x)=\cos x$	$\sec(-x)=\sec x$	$\tan(90°-x)=\cot x$ $\tan(\frac{\pi}{2}-x)=\cot x$	$\cot(90°-x)=\tan x$ $\cot(\frac{\pi}{2}-x)=\tan x$	$\cos\frac{x}{2}=\pm\sqrt{\frac{1+\cos x}{2}}$
$\tan(-x)=-\tan x$	$\cot(-x)=-\cot x$	$\sec(90°-x)=\csc x$ $\sec(\frac{\pi}{2}-x)=\csc x$	$\csc(90°-x)=\sec x$ $\csc(\frac{\pi}{2}-x)=\sec x$	$\tan\frac{x}{2}=\pm\sqrt{\frac{1-\cos x}{1+\cos x}}$

Sum/Difference Identities	Double Angle Identities		Power Reducing Identities
$\sin(x\pm y)=\sin x\cos y\pm\cos x\sin y$	$\sin(2x)=2\sin x\cos x$	$\cos(2x)=1-2\sin^2 x$	$\sin^2 x=\frac{1-\cos 2x}{2}$
$\cos(x\pm y)=\cos x\cos y\mp\sin x\sin y$	$\cos(2x)=\cos^2 x-\sin^2 x$	$\cos(2x)=2\cos^2 x-1$	$\cos^2 x=\frac{1+\cos 2x}{2}$
$\tan(x\pm y)=\frac{\tan x\pm\tan y}{1\mp\tan x\tan y}$	$\tan(2x)=\frac{2\tan x}{1-\tan^2 x}$		$\tan^2 x=\frac{1-\cos 2x}{1+\cos 2x}$

Product To Sum Identities	Sum To Product Identities
$\sin x\sin y=\frac{1}{2}[\cos(x-y)-\cos(x+y)]$	$\sin x+\sin y=2\sin\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$
$\cos x\cos y=\frac{1}{2}[\cos(x-y)+\cos(x+y)]$	$\sin x-\sin y=2\cos\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$
$\sin x\cos y=\frac{1}{2}[\sin(x+y)+\sin(x-y)]$	$\cos x+\cos y=2\cos\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$
$\cos x\sin y=\frac{1}{2}[\sin(x+y)-\sin(x-y)]$	$\cos x-\cos y=-2\sin\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$

Logarithmic Equations



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