Cheatography

Trig Cheat Sheet

by ksmarty1 via cheatography.com/28553/cs/13676/

Reciprocal Identities

$\csc \theta = 1/\sin \theta$

$\sec \theta = 1/\cos \theta$

$\cot \theta = 1/\tan \theta$

Pythagorean Identities

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

$\sec^2\theta = 1 + \tan^2\theta$

$\csc^2\theta = 1 + \cot^2\theta$

Addition & Subtraction Formulas

$\sin(\alpha \pm \beta) = \sin(\alpha)\cos(\beta) \pm \sin(\beta)\cos(\alpha)$

$\cos(\alpha \pm \beta) = \cos(\alpha)\cos(\beta) \mp \sin(\beta)\sin(\alpha)$

$\tan(\alpha \pm \beta) = \dfrac{\tan(\alpha) \pm \tan(\beta)}{1 \mp \tan(\alpha)\tan(\beta)}$

Corelated Angle Identities

$\sin(\pi/2 \pm \theta) = \cos(\theta)$

$\cos(\pi/2 \pm \theta) = \mp\sin(\theta)$

$\tan(\pi/2 \pm \theta) = \mp\cot(\theta)$

$\sin(3\pi/2 \pm \theta) = -\cos(\theta)$

$\cos(3\pi/2 \pm \theta) = \pm\sin(\theta)$

$\tan(3\pi/2 \pm \theta) = \mp\cot(\theta)$

Double Angle Formulas

$\sin(2\theta) = 2\sin(\theta)\cos(\theta)$

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

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

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

$\tan(2\theta) = \dfrac{2\tan(\theta)}{1 - \tan^2(\theta)}$

Quotient Identities

$\tan \theta = \sin \theta/\cos \theta$

$\cot \theta = \cos \theta/\sin \theta$

Related Angle Identities

$\sin(\pi \mp \theta) = \pm\sin(\theta)$

$\cos(\pi \mp \theta) = -\cos(\theta)$

$\tan(\pi \mp \theta) = \mp\tan(\theta)$

$\sin(2\pi - \theta) = -\sin(\theta)$

$\cos(2\pi - \theta) = \cos(\theta)$

$\tan(2\pi - \theta) = -\tan(\theta)$

$\sin(-\theta) = -\sin(\theta)$

$\cos(-\theta) = \cos(\theta)$

$\tan(-\theta) = -\tan(\theta)$

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