

# Trig Cheat Sheet by ksmartyı via cheatography.com/28553/cs/13676/

#### **Reciprocal Identities**

csc θ = 1/sin θ

sec θ = 1/cos θ

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

# 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

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

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

 $tan(\alpha \pm \beta) = tan(\alpha) \pm tan(\beta)$ 

 $1 \mp \tan(\alpha) \tan(\beta)$ 

# 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

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

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

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

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

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

1 - tan²(θ)

#### **Quotient Identities**

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

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

# Related Angle Identities

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

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

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

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

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

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

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

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



By ksmarty1

cheatography.com/ksmarty1/

Published 27th November, 2017. Last updated 27th November, 2017.

Page 1 of 1.

Sponsored by CrosswordCheats.com

Learn to solve cryptic crosswords!

http://crosswordcheats.com