

# Trig identities Cheat Sheet by brhodewalt via cheatography.com/20645/cs/3365/

#### Reciprocal identities

csc x = 1/sin x

 $\sec x = 1/\cos x$ 

 $\cot x = 1/\tan x$ 

# Cotangent/Tangent

tan x = sin x/cos x

 $\cot x = \cos x/\sin x$ 

#### Sum & Difference Identities

sin sum/differences...

cos sum/differences...

tan sum/differences...

Use these to find (a) any trig function, given two known functions or (b) a 15\*pi function that isn't on the 16-point unit circle.

# **Pythagorean Identities**

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

 $tan^2x + 1 = sec^2x$ 

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

You can convert the first identity into the second and third by dividing both sides by  $\cos^2 x$  or  $\sin^2 x$ , respectively.

### Half-angle identities

# **Double-angle identities**

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