

HINTS TO MEMORIZE TRIG IDENTITIES

PYTHAGOREAN

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

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

TAN IN ONE SECOND

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

ONE COAT, CUZ IT'S COLD

NEGATIVE

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

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

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

$$\sec(-\theta) = \sec \theta$$

$$\csc(-\theta) = -\csc \theta$$

$$\cot(-\theta) = -\cot \theta$$

COS & SEC

SIN & CSC

TAN & COT

NO Sign Change

SIGN CHANGE

SIGN CHANGE

COFUNCTIONS

$$\cos(90-\theta) = \sin \theta$$

$$\sec(90-\theta) = \csc \theta$$

$$\tan(90-\theta) = \cot \theta$$

$$\sin(90-\theta) = \cos \theta$$

$$\csc(90-\theta) = \sec \theta$$

$$\cot(90-\theta) = \tan \theta$$

SINE and **CO**SINE

SECANT and **CO**SECANT

TANGENT and **CO**TANGENT

SUM & DIFFERENCE

$$\sin(A+B) = \sin A \cos B + \cos A \sin B$$

$$\sin(A-B) = \sin A \cos B - \cos A \sin B$$

"Sine Cosine Cosine Sine"

$$\tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$$

$$\tan(A-B) = \frac{\tan A - \tan B}{1 + \tan A \tan B}$$

$$\cos(A+B) = \cos A \cos B - \sin A \sin B$$

$$\cos(A-B) = \cos A \cos B + \sin A \sin B$$

"Cosine Cosine ... Sine Sine"

"Tan Tan One ... Tan Tan"

... Means CHANGE SIGN!