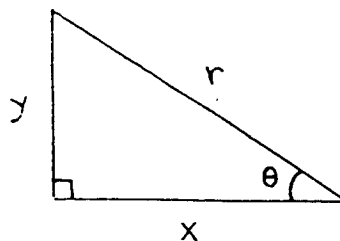


Math 12
Vogler
Reference Angles and the Unit Circle



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

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

3. $1 + \cot^2 \theta = \csc^2 \theta$

$$\cos \theta = x / r$$

$$\sin \theta = y / r$$

$$\tan \theta = y / x$$

$$\sec \theta = r / x$$

$$\csc \theta = r / y$$

$$\cot \theta = x / y$$

degrees	radians	$\cos \theta$	$\sin \theta$	$\tan \theta$
0°	0	1	0	0
30°	$\pi/6$	$\sqrt{3}/2$	$1/2$	$1/\sqrt{3}$
45°	$\pi/4$	$\sqrt{2}/2$	$\sqrt{2}/2$	1
60°	$\pi/3$	$1/2$	$\sqrt{3}/2$	$\sqrt{3}$
90°	$\pi/2$	0	1	undefined

Note: You are required to memorize ALL the facts on this page, along with being able to recreate the unit circles on the next page.

COSINE AND SINE VALUES ON THE UNIT CIRCLE

