

# PERIODIC

SIN, COS, SEC, CSC: ADD OR SUBTRACT  $2\pi$  ( $360^\circ$ ) AND GET SAME VALUES

TAN, COT: ADD OR SUBTRACT  $\pi$  ( $180^\circ$ ) AND GET SAME VALUES

1.  $\cos 570^\circ$   
 $\cos (570^\circ - 360^\circ)$   
 $\cos (210^\circ)$

$\frac{-\sqrt{3}}{2}$

2.  $\csc \frac{11\pi}{4}$

$\csc \left( \frac{11\pi}{4} - 2\pi \right)$

$\csc \left( \frac{3\pi}{4} \right)$

$\frac{1}{\frac{\sqrt{2}}{2}}$

$1 \cdot \frac{2}{\sqrt{2}}$

$\frac{2}{\sqrt{2}}$

$= \frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

$= \frac{2\sqrt{2}}{2}$

$= \sqrt{2}$

UNIT CIRCLE

$\cos \theta = x$

$\sin \theta = y$

$\tan \theta = \frac{y}{x}$

$\sec \theta = \frac{1}{x}$

$\csc \theta = \frac{1}{y}$

$\cot \theta = \frac{x}{y}$

3.  $\cot \frac{23\pi}{6}$

$\cot \left( \frac{23\pi}{6} - 2\pi \right)$

$\cot \left( \frac{11\pi}{6} \right)$

RECALL COT IS  $\frac{x}{y}$  SO

$\frac{\sqrt{3}}{2}$

$-\frac{1}{2}$

$\frac{\sqrt{3}}{-1}$

$-\sqrt{3}$

## QUADRANTS

II (-, +)	I (+, +)
III (-, -)	IV (+, -)

4.  $\sin \theta < 0$

"y"

y IS NEG.

$\cos \theta < 0$

"x"

x IS NEG

III

5.

$\sec \theta > 0$

" $\frac{1}{x}$ "

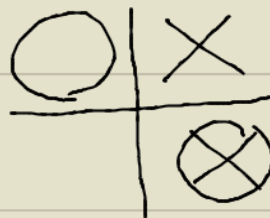
x IS POS

$\tan \theta < 0$

" $\frac{y}{x}$ "

TAN IS NEG

$\frac{y}{x}$  IS NEG



IV

$\frac{3}{-2}$

$\frac{-5}{2}$