Any Denominator ever can't equal zero!

C12 - 4.7 - NPV Trig Notes

$0 \le \theta < 2\pi$ General Solution

$\frac{1}{cos\theta}$ $\frac{tan\theta}{\frac{sin\theta}{cos\theta}}$ $\frac{sec\theta}{\frac{1}{cos\theta}}$ $cos\theta \neq 0$ $\theta \neq \frac{\pi}{2}, \frac{3\pi}{2}$ $\theta \neq \frac{\pi}{2} + \pi n, nEI$ $cos\theta = y$

$p = \frac{3\pi}{2} - \frac{\pi}{2} = \pi$

$\frac{1}{sin\theta}$ $\frac{cot\theta}{\frac{cos\theta}{sin\theta}}$ $\frac{csc\theta}{\frac{1}{sin\theta}}$ $sin\theta \neq 0$ $\theta \neq 0, \pi$ $\theta \neq \pi n, nEI$ $sin\theta = y$

$\frac{1}{tan\theta}$

$\frac{1}{\frac{sin\theta}{cos\theta}}$ $sin\theta \neq 0$, $cos\theta \neq 0$ ...

$\frac{1}{cot\theta}$

$\frac{1}{\frac{cos\theta}{sin\theta}}$ $sin\theta \neq 0$, $cos\theta \neq 0$ ...

Any denominator or any part of a fraction that will make a denominator zero.

$\frac{1}{cos\theta + 1}$ $cos\theta + 1 \neq 0$, $cos\theta \neq -1$ $\theta \neq \pi$ $\theta \neq \pi + 2\pi n, nEI$

$\frac{1}{sin\theta - \frac{1}{2}}$ $sin\theta - \frac{1}{2} \neq 0$, $sin\theta \neq \frac{1}{2}$ ...

$\frac{1}{\cos^2 x - 1}$ $\cos^2 x - 1 \neq 0$, $\sin^2 x \neq 1$, $sinx \neq \pm 1$ ...

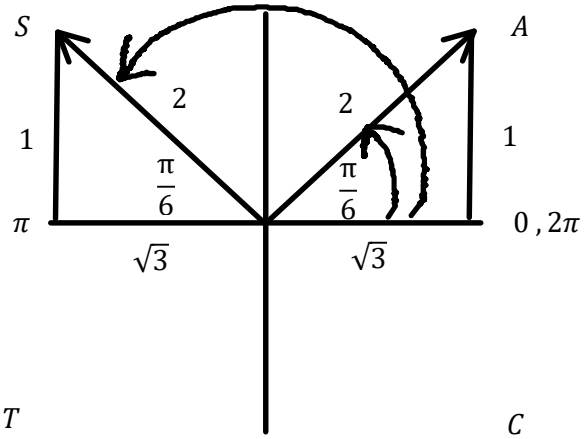
$\frac{1}{\sin^2 x + 1}$ $\sin^2 x + 1 \neq 0$, $\sin^2 x \neq -1$, $sinx \neq \sqrt{-1}$ No Restrictions

C12 - 4.7 - ASTC General Solutions

$\theta = \theta_{stp} \pm pn, n \in I$

Solve for $\theta, 0 \leq \theta < 2\pi$, *and find general solution.*

$sin\theta = \frac{1}{2}$

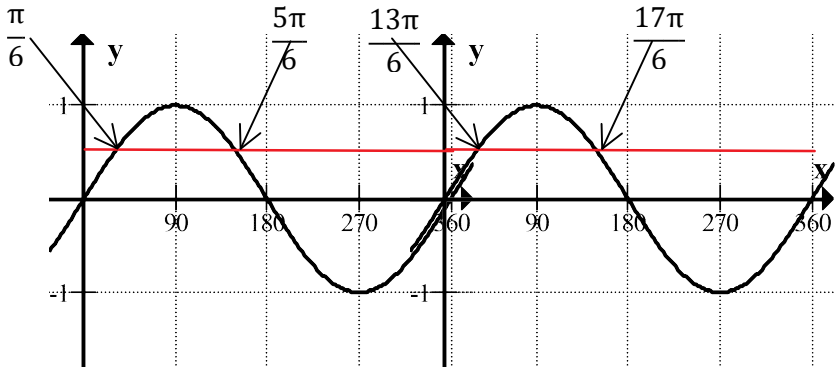


$\theta = \frac{\pi}{6}$

$\theta = \frac{5\pi}{6}$

$\theta = \frac{\pi}{6} + 2\pi n, nEI$

$\theta = \frac{5\pi}{6} + 2\pi n, nEI$



$\theta = \frac{\pi}{6} + 2\pi$

$\theta = \frac{\pi}{6} + \frac{12\pi}{6}$

$\theta = \frac{13\pi}{6}$

$\theta = \frac{5\pi}{6} + 2\pi$

$\theta = \frac{5\pi}{6} + \frac{12\pi}{6}$

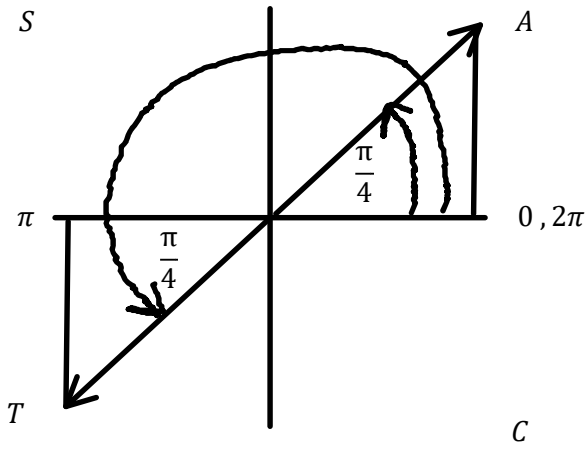
$\theta = \frac{17\pi}{6}$

C12 - 4.7 - ASTC Reject General Solutions

$\theta = \theta_{stp} \pm pn, n \in I$

Solve for $\theta, 0 \leq \theta < 2\pi$, *and find general solution.*

$tan\theta = 1$

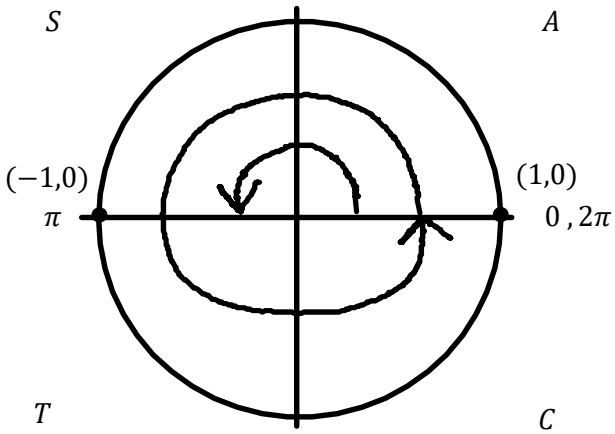


$\theta = \frac{\pi}{4}$ $\theta = \frac{5\pi}{4}$

$\theta = \frac{\pi}{4} + \pi n, nEI$ ~~$\theta = \frac{5\pi}{4} + \pi n, nEI$~~

$\frac{\pi}{4}, \frac{5\pi}{4}, \ldots$ $\frac{\pi}{4} + p + p + p \ldots$

$sin\theta = 0$

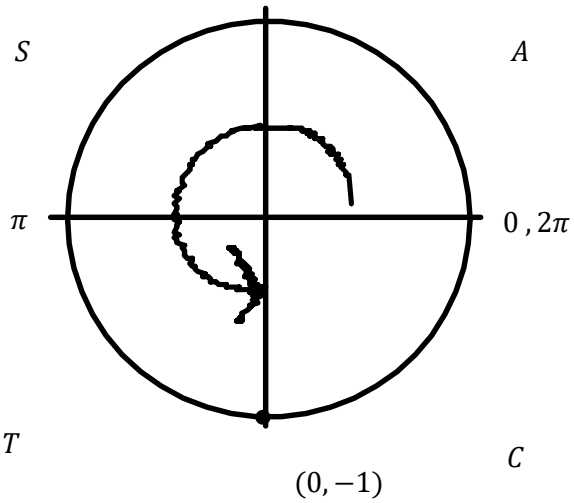


$\theta = 0$ $\theta = \pi$

$\theta = 0 + 2\pi n, nEI$ $\theta = \pi + 2\pi n, nEI$

$\theta = \pi n, nEI$

$sin\theta = -1$



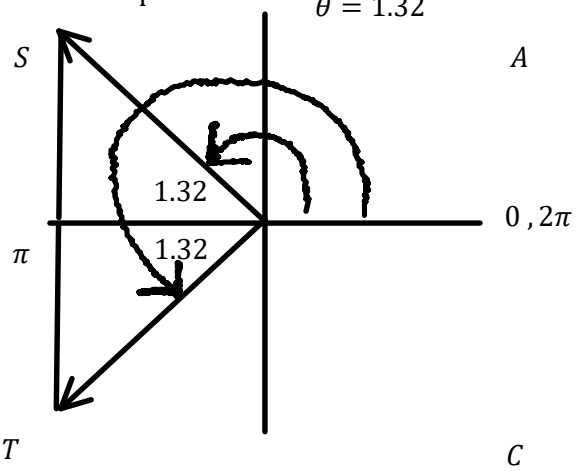
$(0, -1)$

$\theta = \frac{3\pi}{2}$

$\theta = \frac{3\pi}{2} + 2\pi n, nEI$

$cos\theta = -\frac{1}{4}$ $\theta = \cos^{-1}(\frac{1}{4})$

$\theta = 1.32$



$\theta = 1.82$ $\theta = 4.46$

$\theta = 1.82 + 2\pi n, nEI$ $\theta = 4.46 + 2\pi n, nEI$

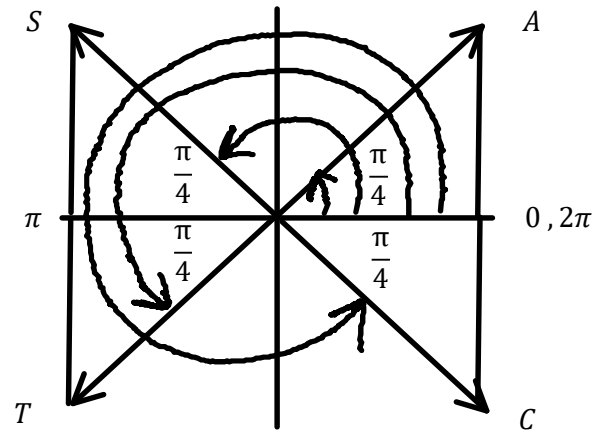
C12 - 4.7 - Square Root General Solutions

$\theta = \theta_{stp} \pm pn, n \in I$

Solve for $\theta, 0 \leq \theta < 2\pi$, *and find general solution.*

$\sin^2 \theta = \frac{1}{2}$

$sin\theta = \pm\frac{1}{\sqrt{2}}$



$\theta = \frac{\pi}{4}$ $\theta = \frac{3\pi}{4}$ $\theta = \frac{5\pi}{4}$ $\theta = \frac{7\pi}{4}$

$\theta = \frac{\pi}{4} + \frac{\pi}{2}n, nEI$

$\tan^2 \theta = 1$

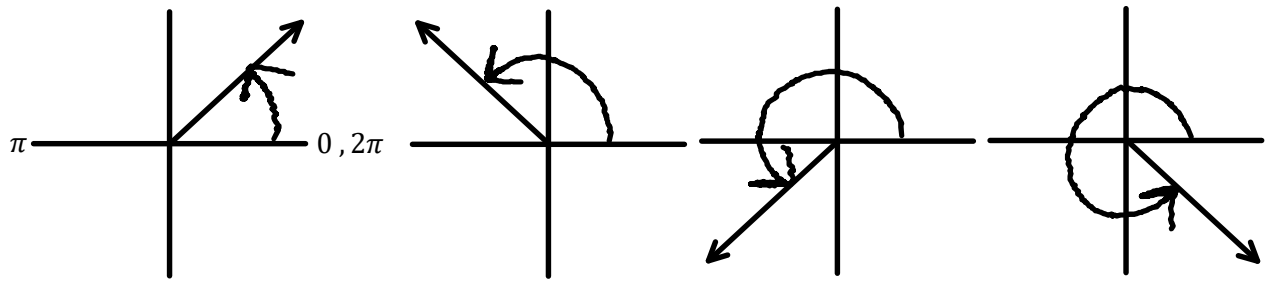
$\frac{\sin^2 \theta}{\cos^2 \theta} = 1$

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

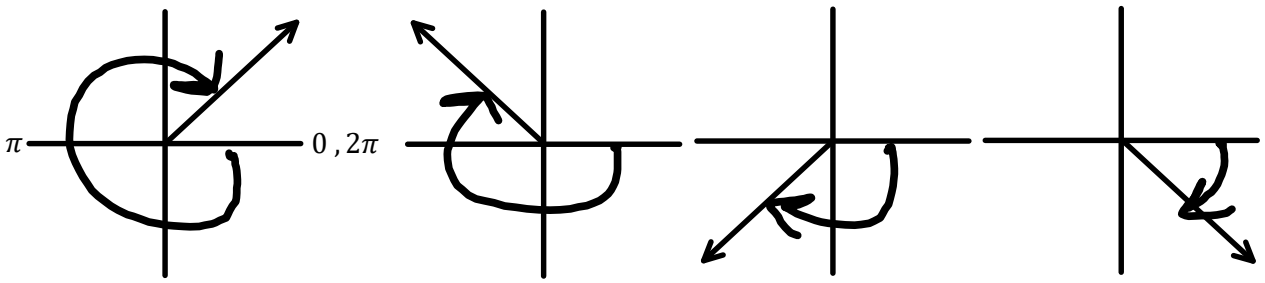
$\theta = \frac{\pi}{4} + \frac{\pi}{2}n, nEI$

C12 - 4.7 - Domain Change Notes

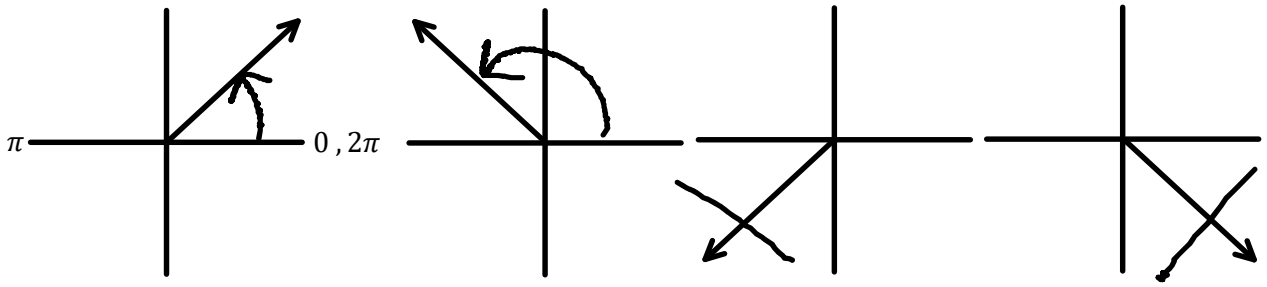
$0 \leq \theta < 2\pi$



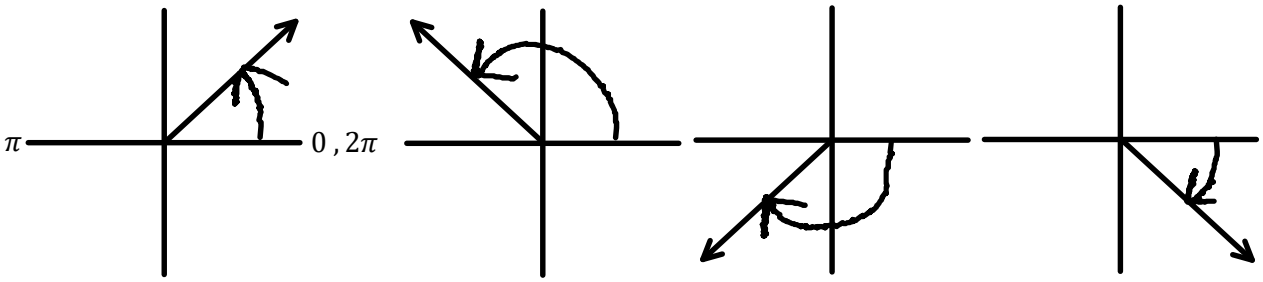
$-2\pi \leq \theta < 0$



$0 \leq \theta < \pi$



$-\pi \leq \theta < \pi$



$-4\pi \leq \theta < 0$