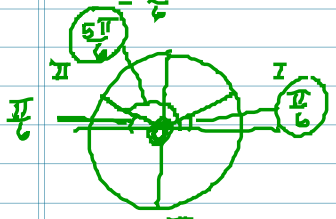
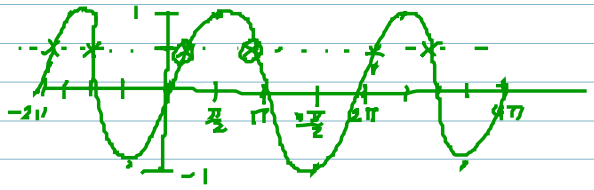
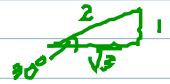
$\sin(\theta) = \frac{1}{2}$

$\theta = \sin^{-1}\left(\frac{1}{2}\right)$

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







$\theta = \frac{\pi}{6} + 2\pi n \quad , n \in \mathbb{Z}$

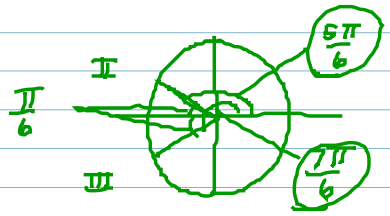
$= \frac{5\pi}{6} + 2\pi n$

$2\cos(\theta) + \sqrt{3} = 0$

$2\cos(\theta) = -\sqrt{3}$

$\cos(\theta) = -\frac{\sqrt{3}}{2}$

$\theta = \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$



$\theta = \frac{5\pi}{6} + 2\pi n \quad , n \in \mathbb{Z}$

$= \frac{7\pi}{6} + 2\pi n$

$\theta \in [0, 2\pi)$

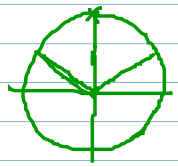
$n = 0$, $\frac{5\pi}{6}$, $\frac{7\pi}{6}$

$n = 1$, $\frac{5\pi}{6} + 2\pi\frac{6}{6} = \frac{5\pi}{6} + \frac{12\pi}{6} = \frac{17\pi}{6}$

$\frac{7\pi}{6} + 2\pi\frac{6}{6} = \frac{7\pi}{6} + \frac{12\pi}{6} = \frac{19\pi}{6}$

$n = -1$, $\frac{5\pi}{6} + 2\pi(-1) = \frac{5\pi}{6} - \frac{12\pi}{6} = -\frac{7\pi}{6}$

$\frac{7\pi}{6} + 2\pi(-1) = \frac{7\pi}{6} - \frac{12\pi}{6} = -\frac{5\pi}{6}$



$-\frac{19\pi}{6}, -\frac{7\pi}{6}, \frac{5\pi}{6}, \frac{17\pi}{6}, \frac{29\pi}{6}, \frac{41\pi}{6}$

$2\sin^2(\theta) - 3\sin(\theta) + 1 = 0$

$u = \sin(\theta)$

$2u^2 - 3u + 1 = 0$

$(2u - 1)(u - 1) =$

$u = \frac{1}{2}, 1$

$\sin(\theta) = 1$

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

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

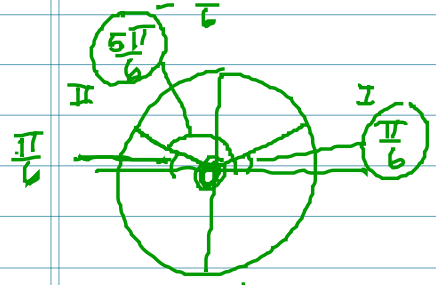
$\theta = \frac{\pi}{6} + 2\pi n, n \in \mathbb{Z}$

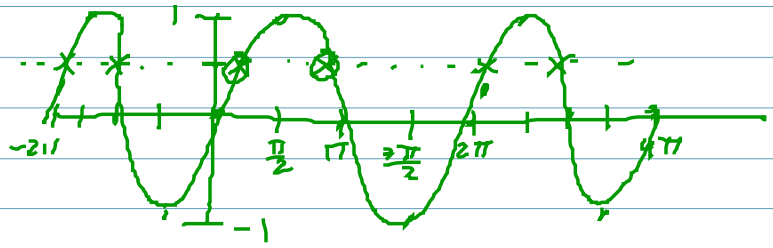
$= \frac{5\pi}{6} + 2\pi n$

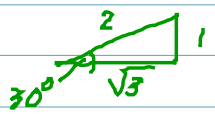
$\sin(\theta) = \frac{1}{2}$

$\theta = \sin^{-1}\left(\frac{1}{2}\right) \leftarrow$

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







$\theta = \frac{\pi}{6} + 2\pi n \quad , n \in \mathbb{Z}$

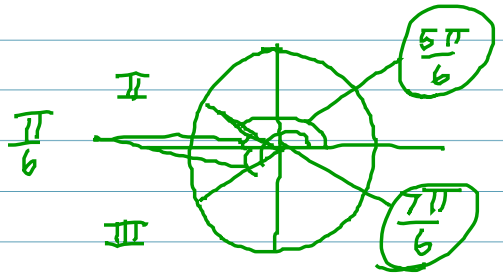
$= \frac{5\pi}{6} + 2\pi n$

$2\cos(\theta) + \sqrt{3} = 0$

$2\cos(\theta) = -\sqrt{3}$

$\cos(\theta) = -\frac{\sqrt{3}}{2}$

$\theta = \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$



$\theta = \frac{5\pi}{6} + 2\pi n \quad , n \in \mathbb{Z}$

$= \frac{7\pi}{6} + 2\pi n$

$\theta \in [0, 2\pi)$

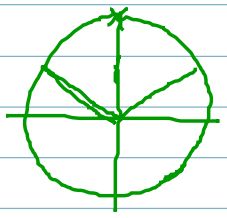
$n = 0, \quad \boxed{\frac{5\pi}{6}, \frac{7\pi}{6}}$

$n = 1, \quad \frac{5\pi}{6} + 2\pi\frac{6}{6} = \frac{5\pi}{6} + \frac{12\pi}{6} = \frac{17\pi}{6}$

$\frac{7\pi}{6} + 2\pi\frac{6}{6} = \frac{7\pi}{6} + \frac{12\pi}{6} = \frac{19\pi}{6}$

$n = -1, \quad \frac{5\pi}{6} + 2\pi(-1) = \frac{5\pi}{6} - \frac{12\pi}{6} = -\frac{7\pi}{6}$

$\frac{7\pi}{6} + 2\pi(-1) = \frac{7\pi}{6} - \frac{12\pi}{6} = -\frac{5\pi}{6}$



$-\frac{19\pi}{6}, -\frac{7\pi}{6}, \frac{5\pi}{6}, \frac{17\pi}{6}, \frac{29\pi}{6}, \frac{41\pi}{6}$

$2\sin^2(\theta) - 3\sin(\theta) + 1 = 0$

$u = \sin(\theta)$

$2u^2 - 3u + 1 = 0$

$(2u - 1)(u - 1) =$

$u = \frac{1}{2}, 1$

$\sin(\theta) = 1$

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

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

$\theta = \frac{\pi}{6} + 2\pi n, n \in \mathbb{Z}$

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

$3\cos(\theta) + 3 = 2\sin^2(\theta)$

$= 2(1 - \cos^2(\theta))$ $\quad u = \cos(\theta)$

$= 2 - 2\cos^2(\theta)$

→ $2\cos^2(\theta) + 3\cos(\theta) + 1 = 0$

$2u^2 + 3u + 1 =$

$(2u+1)(u+1) = 0$

$u = -\frac{1}{2}, -1$

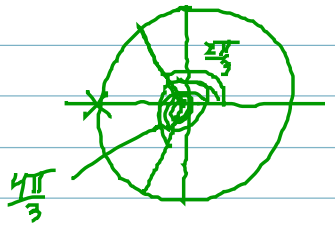
$\cos(\theta) = -\frac{1}{2}$

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

$= \frac{4\pi}{3} + 2\pi n, \quad n \in \mathbb{Z}$

$\cos(\theta) = -1$

$\theta = \pi + 2\pi n$



$\sqrt{3}\tan(\theta) - 1 = 0$

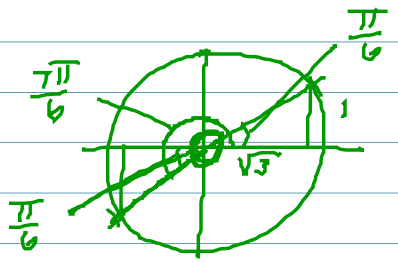
$\tan(\theta) = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

$\theta = \frac{\pi}{6} + 2\pi n, \quad n \in \mathbb{Z}$

$= \frac{7\pi}{6} + 2\pi n$

↓

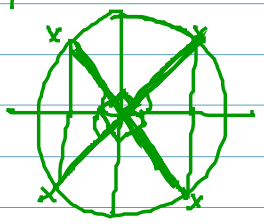
$\boxed{\theta = \frac{\pi}{6} + \pi n, \quad n \in \mathbb{Z}}$



$7\tan^2(\theta) + 3 = 10$

→ $\tan^2(\theta) = 1$

$\tan(\theta) = \pm 1$



$\tan(\theta) = 1$

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

$= \frac{5\pi}{4} + 2\pi n$

$\theta = \frac{\pi}{4} + \pi n$

$\tan(\theta) = -1$

$\theta = \frac{3\pi}{4} + 2\pi n$

$\frac{7\pi}{4} + 2\pi n$

$\theta = \frac{3\pi}{4} + \pi n$

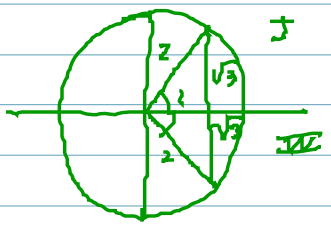
$\boxed{\theta = \frac{\pi}{4} + \frac{\pi}{2} n, \quad n \in \mathbb{Z}}$

$3\sec(\theta) - 10 = -4$

$\sec(\theta) = 2$

$\theta = \frac{\pi}{3} + 2\pi n, \quad n \in \mathbb{Z}$

$\frac{5\pi}{3} + 2\pi n$



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

$\tan(\theta) = \frac{1}{\tan(\theta)}$

$\tan^2(\theta) = 1$

$\tan(\theta) = 1$

$\theta = \frac{\pi}{4} + \pi n$

$\tan(\theta) = -1$

$\theta = \frac{3\pi}{4} + \pi n$

$\theta = \frac{\pi}{4} + \frac{\pi}{2} n, \quad n \in \mathbb{Z}$