

4/18/17

## 6.3 Trig Eqns

Objective: Solve eqns involving a single trig fxn.

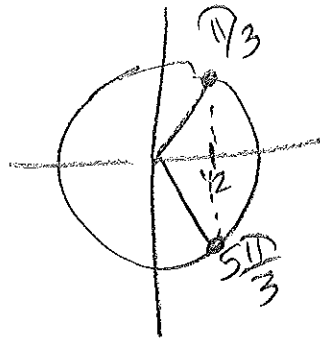
Solve for  $0 \leq \theta < 2\pi$

$$\textcircled{1} \quad \frac{1}{-1} - \cos \theta = \frac{1}{-1}$$

$$\frac{-\cos \theta}{-1} = \frac{-1}{-1}$$

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

$$\theta = \frac{\pi}{3}, \frac{5\pi}{3}$$



$$\left\{ \frac{\pi}{3}, \frac{5\pi}{3} \right\}$$

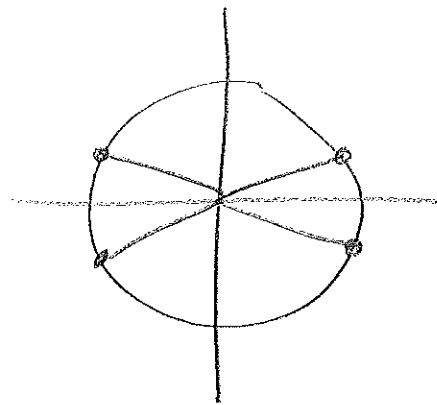
$$\textcircled{2} \quad 4\cos^2 \theta - 3 = 0$$

$$\frac{4\cos^2 \theta}{4} = \frac{3}{4}$$

$$\sqrt{\cos^2 \theta} = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{\sqrt{4}} = \frac{\sqrt{3}}{2}$$

$$\cos \theta = \pm \frac{\sqrt{3}}{2}$$

$$\theta = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$$



$$\textcircled{3} \quad \tan(2\theta) = -1$$

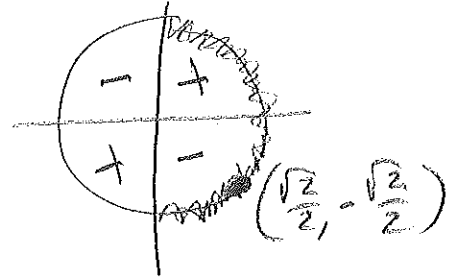
$$\tan^{-1}(\tan(2\theta)) = \tan^{-1}(-1)$$

$$-\frac{\pi}{2} < \theta < \frac{\pi}{2}$$

$$2\theta = \tan^{-1}(-1)$$

$$\frac{2\theta}{2} = \frac{-\frac{\pi}{4}}{2}$$

$$\theta = -\frac{\pi}{4} \cdot \frac{1}{2} = \boxed{-\frac{\pi}{8}}$$



Assign: 7-10 all, 11-19 odd,  
23, 25, 29, 31