

SOLVING A TRIG EQUATION WITH A SINGLE TRIG FUNCTION

1. $1 - \sin \theta = \frac{3}{2}$

$$1 - \frac{3}{2} = \sin \theta$$

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

"y"

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

① GET TRIG FUNCTION BY ITSELF

② LOOK THE ANSWERS UP ON UNIT CIRCLE

2. $4 \sin^2 \theta = 3$

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

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

$$(\sin \theta)^2 = \frac{3}{4}$$

$$\sin \theta = \pm \sqrt{\frac{3}{4}}$$

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

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

$$\theta = \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$$

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

$$\cos \frac{\pi}{3} = \frac{1}{2}$$

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

$$2 \cdot \left(\frac{\theta}{2}\right) = 2 \cdot \left(\frac{\pi}{3}\right)$$

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

$$\cos \frac{5\pi}{3} = \frac{1}{2}$$

$$\frac{\theta}{2} = \frac{5\pi}{3}$$

$$2 \cdot \left(\frac{\theta}{2}\right) = 2 \cdot \left(\frac{5\pi}{3}\right)$$

$$\theta = \frac{10\pi}{3} = 3\frac{1}{3}\pi$$

4. $\sqrt{3} \tan \theta - 1 = 0$

$$\sqrt{3} \tan \theta = 1$$

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

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

$$\tan \theta = \frac{\sqrt{3}}{3}$$

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