

## Lesson 6.6 – Solving Trigonometric Equations I

**I. Warm-Up:**1. Find all value of  $\theta$  that satisfies the equation in the interval:  $0 \leq \theta \leq 2\pi$ .

a.  $\cos \theta = -\frac{1}{2}$

b.  $\tan \theta = \sqrt{3}$

c.  $\sin \theta = 0$

**\*\*How does your solution differ if I didn't give you a range restriction? \*\*****II. Solve for all values of  $\theta$ .**

2.  $5 \sin \theta - 3 \sin \theta - 1$

3.  $3 \tan^2 \theta - 1 = 0$

4.  $\cot \theta \cos^2 \theta = 2 \cot \theta$

5.  $2 \sin^2 \theta + 3 \sin \theta + 1 = 0$

### III. Practice

5.  $3 \sec^2 \theta - 2 \tan^2 \theta = 4$

6.  $\sin \theta + \sqrt{2} = -\sin \theta$

7.  $4 \cos^2 \theta = 3$

8.  $\sin^2 \theta = 2 \sin \theta$

9.  $2 \cos^2 \theta - 1 = \sin \theta$

10.  $4 \sin^3 \theta + 2 \sin^2 \theta - 2 \sin \theta - 1 = 0$