Homework: pg 435 #1abc, 2ac, 3, 4-8ace, 9ac, 10, (11), 12, 14, 15a, (18)

**Solving Quadratic Trigonometric Equations**

Prior Knowledge:

There are several methods to solve a quadratic equation:

1. Factoring
2. Quadratic Formula
3. Graphing

A quadratic equation may have two solutions, one solution or no solution.

**Activity 1**

Solve the equation $x^{2}+2x-8=0$ using multiple techniques.

Factoring Quadratic Formula Graphing

**y**

**x**

**Example 1**

Solve the equation $2cos^{2}θ-1=0$; $0\leq θ\leq 2π$.

**Example 2**

Solve the following trigonometric equations; $0\leq θ\leq 2π$.

a) $3cos^{2}θ-11\cos(θ)=-6$ b) $-2cos^{2}θ-3\sin(θ)+3=0$

**Example 3**

Solve the following trigonometric equations; $0\leq θ\leq 2π$.

 Hint: Factoring may help.

a) $\sin(θ)(\cos(θ)-1)=0$ b) $\sec(θ)\csc(θ)-2\csc(θ)=0$

**Example 4**

How would you start a solution to the following equations below?

a) $5\cos(2)θ-\cos(θ)+3=0$ b) $-2\cos(2)θ=2\sin(θ)$ c) $\sin(2θ=\cos(θ))$