Name_____

Date_____

Advanced Algebra Unit 10 Advanced Trig

Assignment #19 I have provided you with hints.

**Solve each equation for $0° \leq x \leq 180$**

1) $4\sin^2\theta - 3 = 0$

Hint: Isolate the trig function
Square root of both sides

2) $2\sin^2\theta + \sin\theta = 0$

Hint: Factor like a quadratic
Zero Product Property

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

Hint: Isolate the Trig Function

4) $\sqrt{2}\cos\theta - 1 = 0$

Hint: Isolate the Trig Function

5) $tan2\theta = \cot\theta$

Hint: How can reciprocals ever be equal?

6) $2\cos^2\theta=\sin\theta + 1$

This is a challenge problem.
Make a Pythagorean Substitution for $\cos^2$.
Get everything on one side
Factor
Use the zero product property

7) $\sin2\theta= \cos\theta$

Hint: Think where is the only place possible for this to happen?

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

Hint: Factor
Then use the Zero Product Property

9) $\sin\theta + \cos\theta = 0$

Hint: the only way for this to happen is using the idea that 1+-1 =0. Where does this happen?

10) $\cos^2\theta-\frac{7}{2}\cos\theta - 2 = 0$

Hint: Factor with Fractions