PreCalculus Homework - Solving Equations Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following equations on the interval [0, 2π].

1. $sin\frac{x}{2}=-\frac{\sqrt{2}}{2}$ 2. cot $\frac{2θ}{3}=-\sqrt{3}$ 3. sin 3x = -1

Solve the following equations. Find ALL solutions.

4. 4cos2 x – 3 = 0 5. sin x = -0.2 (graphically) 6. sec x = -4 (graphically)

7. 2cosxsinx – cosx = 0 8. tanxsin2x = sinx 9. 4cos2x – 4cosx + 1 = 0

10. 3sint = 2cos2t 11. cos(sin x) = 1 12. sin2x = sinx

**EXTRA CREDIT – to be turned in on a separate piece of paper TODAY (may work with ONE other person):**

A ladder of length L is carried horizontally around a corner from a hall 3 feet wide into a hall 4 feet wide. The ladder barely scrapes the sides of the hallway. Express L as a function of Ѳ (the smaller angle the ladder makes with the wall).