

GPS Pre-Calculus Review 1
Simplifying/Solving/Multiple Angles

Name _____
Period _____ Date _____

1. Simplify each expression.

1. $\sec^2 \theta(1 - \cos^2 \theta)$

2. $\frac{\sin \theta}{1 + \cos \theta} + \frac{1 + \cos \theta}{\sin \theta}$

3. $\cos \theta(\sec \theta - \cos \theta)$

4. $\frac{\sin^2 \theta + \tan^2 \theta + \cos^2 \theta}{\sec \theta}$

5. $\frac{\sec(-x)}{\tan(-x)}$

6. $\frac{\csc^2 \theta - 1}{\csc^2 \theta} + \frac{\sec^2 \theta - 1}{\sec^2 \theta}$

II. Solve each equation on the interval $[0, 2\pi)$.

7. $4 \sin x + 1 = 2 \sin x$

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

9. $3 \sec^2 \theta - 4 = 0$

10. $6 \cos^2 \theta - 6 = 0$

11. $3 \sin^2 \theta + 2 \sin \theta = 1$

12. $2 \sin \beta \cos \beta = \sin \beta$

13. $\sec^2 \theta + \tan^2 \theta = 1$

14. $\sin^2 x - 3 \cos^2 x = 0$

15. $\sqrt{3} \tan 3x = 1$