Secondary 2H **Name**_____ **Desk** _____
Unit 9 **Verifying Trig Identities**
Score _____

Verify each trigonometric identity. SHOW ALL WORK. (If you need a separate piece of paper, please do!!) NEATNESS COUNTS!!!

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

2. $\csc^2\theta - \cos^2\theta\csc^2\theta = 1$

3. $\sec\theta\sin\theta = \tan\theta$

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

5. $\frac{\tan\theta}{\sec\theta} = \sin\theta$

6. $\frac{1-2\csc\theta}{\cot\theta} = \tan\theta - 2\sec\theta$

7. $(\sec\theta + \tan\theta)(\sec\theta - \tan\theta) = 1$

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

9. $\frac{\sec\theta+\tan\theta}{\cos\theta+\cot\theta} = \sin\theta\sec^2\theta$

10. $\frac{\sin\theta+\cos\theta}{\sin\theta\cos\theta} = \sec\theta+\csc\theta$

11. $\sin\theta\left(\frac{\cot\theta}{\sec\theta}+\csc\theta\right) = \cos^2\theta+1$

12. $\frac{1}{1-\cos\theta}+\frac{1}{1+\cos\theta} = 2\csc^2\theta$

13. $\csc\theta-\sin\theta = \cot\theta\cos\theta$

14. $\cos\theta = \sec\theta-\sin\theta\tan\theta$

15. $\frac{\csc^2\theta}{\csc^2\theta-1} = \sec^2\theta$

16. $\frac{(1+\sin\theta)^2}{\cos^2\theta} = \frac{1+\sin\theta}{1-\sin\theta}$

Challenge Question: $\frac{2\cos^2\theta-\sin^2\theta+1}{\cos\theta} = 3\cos\theta$