

**WS6--Fundamental Verifications**

Name: \_\_\_\_\_

*Verify each identity. Show ALL steps.*

1.  $\cot \theta \csc \theta \tan^2 \theta = \sec \theta$

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

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

4.  $\sin \theta + \cos \theta \cot \theta = \csc \theta$

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

6.  $\frac{1 + \sec \theta}{\tan \theta + \sin \theta} = \csc \theta$

7.  $\frac{2 \cos^2 \theta - \sin^2 \theta + 1}{\cos \theta} = 3 \cos \theta$

8.  $\frac{\cos \theta + \cot \theta}{\csc \theta + 1} = \cos \theta$

9.  $\sin^2 \theta \left( \frac{\csc^2 \theta - 1}{\cos^2 \theta} - \cot^2 \theta \right) = \sin^2 \theta$

10.  $(\sin \theta - \cos \theta)^2 + 2 \sin \theta - \cos \theta = (1 + 2 \sin \theta)(1 - \cos \theta)$