

Unit 7 (Section 7.4) Exam Review

Prove each identity. USE GOOD FORM.

$$\tan 2\theta = \frac{2}{\cot \theta - \tan \theta}$$

$$1 + \frac{1}{2} \sin 2\theta = \frac{\sec \theta + \sin \theta}{\sec \theta}$$

$$\sin \frac{\theta}{2} \cos \frac{\theta}{2} = \frac{\sin \theta}{2}$$

$$\tan \frac{\theta}{2} = \frac{\sin \theta}{1 + \cos \theta}$$

$$\frac{\cos 2\theta}{1 + \sin 2\theta} = \frac{\cot \theta - 1}{\cot \theta + 1}$$

$$\frac{1 + \tan \theta}{\sin \theta + \cos \theta} = \sec \theta$$

$$\tan \left(\theta + \frac{\pi}{2} \right) = -\cot \theta$$

$$\sin^2 \theta + \tan^2 \theta = (1 - \cos^2 \theta) + \frac{\sec^2 \theta}{\csc^2 \theta}$$

$$\sec(A - B) = \frac{\sec A \sec B}{1 + \tan A \tan B}$$

$$\sin(\theta + \pi) = -\sin \theta$$

$$\sin(A + B) \sin(A - B) = \sin^2 A - \sin^2 B$$