

Warm-up #7: Verifying

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

$$\sec^2\theta \cdot \sin^2\theta$$

$$\frac{1}{\cos^2\theta} \cdot \sin^2\theta$$

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

$$\tan^2\theta$$

$$\tan^2\theta \checkmark$$

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

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

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

$$\frac{1 - \sin\theta}{\cos\theta} + \frac{\sin\theta}{\cos\theta}$$

$$\frac{1}{\cos\theta}$$

$$\sec\theta \checkmark$$