

### Warm-up #4: Simplifying

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

$$(\cos^2\theta + \sin^2\theta)(\cos^2\theta - \sin^2\theta)$$

$$1 (\cos^2\theta - \sin^2\theta)$$

$$\boxed{\cos^2\theta - \sin^2\theta}$$

2.  $\frac{1}{1+\tan^2\theta} + \frac{1}{1+\cot^2\theta}$

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

$$\cos^2\theta + \sin^2\theta$$

$$\boxed{1}$$