

Warmup 5: Verify

$$1 - \tan^2 x = \frac{\cos(2x)}{\cos^2 x}$$

$$= \frac{\cos^2 x - \sin^2 x}{\cos^2 x}$$

$$= \frac{\cos^2 x}{\cos^2 x} - \frac{\sin^2 x}{\cos^2 x}$$

$$= 1 - \tan^2 x \quad \checkmark$$