

Warm-up 3/2/17

Prove the identity.

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

$$\frac{1 - \cos^2 u}{\cos^2 u}$$

$$\frac{\sin^2 u}{\cos^2 u} = \tan^2 u$$

Working from Both SidesProve the identity: $\frac{\cot^2 u}{1 + \csc u} = (\cot u)(\sec u - \tan u)$

$$\frac{(\csc u + 1)(\csc u - 1)}{\csc^2 u - 1}$$

$$\csc u - 1$$

$$\frac{\cancel{\cos u}}{\sin u} \cdot \frac{1}{\cancel{\cos u}} - \frac{\cos u}{\sin u} \cdot \frac{\sin u}{\cancel{\cos u}}$$

$$\frac{1}{\sin u} - 1$$

$$\csc u - 1$$

Prove the identity: $\cot^2 x - \cos^2 x = \cos^2 x \cot^2 x$

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

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

$$1 \left(\frac{\cos^2 x}{\sin^2 x} \right) - \sin^2 x \left(\frac{\cos^2 x}{\sin^2 x} \right)$$

$$\cot^2 x - \cos^2 x$$

Assignment: pp. 418 - 419

32 - 40 evens, 49, 61, 63