

Verify each of the following trig identity.

$$\frac{1-\cos x}{1+\cos x} \cdot \frac{1+\cos x}{\sin x} = \frac{\sin x}{1-\cos x} \cdot \frac{\sin x}{\sin x}$$

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

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

Verify this identity:

$$\tan x + \cot x = (\sec x)(\csc x)$$

$$\frac{\sin x}{\cos x} + \frac{\cos x}{\sin x} = \frac{1}{\cos x} \cdot \frac{1}{\sin x}$$

$$\frac{\sin^2 x + \cos^2 x}{\sin x \cos x} = \frac{1}{\sin x \cos x}$$

Verify this identity:

$$\sin^2 x \cdot \tan^2 x = \tan^2 x - \sin^2 x$$

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

$$\frac{\sin^4 x}{\cos^2 x} = \frac{\sin^2 x - \sin^2 x \cos^2 x}{\cos^2 x}$$

$$\frac{\sin^4 x}{\cos^2 x} = \frac{\sin^2 x (1 - \cos^2 x)}{\cos^2 x}$$

$$\frac{\sin^4 x}{\cos^2 x} = \frac{\sin^2 x \cdot \sin^2 x}{\cos^2 x}$$

$$\frac{\sin^4 x}{\cos^2 x} = \frac{\sin^4 x}{\cos^2 x}$$

Verify this trig identity.

$$\frac{1 + \cot A}{\csc A} = \sin A + \cos A$$

$$\frac{1 + \frac{\cos A}{\sin A}}{\frac{1}{\sin A}} = \sin A + \cos A$$

$$\sin A \left( 1 + \frac{\cos A}{\sin A} \right) = \sin A + \cos A$$

$$\sin A + \cos A = \sin A + \cos A$$

Verify this trig identity.

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

$$\frac{\sin^2 - 2\sin\cos + \cos^2}{\cos}$$

$$\frac{1 - 2\sin\cos}{\cos}$$

$$\frac{1}{\cos} - \frac{2\sin\cos}{\cos}$$

$$\sec x - 2\sin x = \sec x - 2\sin x$$

$$\begin{array}{|c|c|c|} \hline \sin & -\cos & \\ \hline \sin & \sin^2 & -\sin\cos \\ \hline -\cos & -\sin\cos & \cos^2 \\ \hline \end{array}$$

Verify this trig identity.

$$\frac{1}{\tan x} + \tan x = \sec x \csc x$$

$$\frac{1}{\frac{\sin}{\cos}}$$

$$\frac{1}{\cos} \cdot \frac{1}{\sin}$$

$$\frac{\cos}{\cos} \cdot \frac{\cos}{\sin} + \frac{\sin}{\cos} \cdot \frac{\sin}{\sin}$$

$$\frac{\cos^2 + \sin^2}{\sin \cdot \cos}$$

$$\frac{1}{\sin x \cos x} = \frac{1}{\sin x \cos x}$$

You should now be able to complete

Hwk #26

Sec 14-1

Page 780

Problems: 1, 8, 46, 48, 49, 55, 56