Verify Trig Identity

$$\frac{\sin\theta}{1+\cos\theta} + \frac{1+\cos\theta}{\sin\theta} = 2\csc\theta$$

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

Create common denominator

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

* resist the desire to combine the $1+\cos\theta(\sin\theta)$

* $\sin^2\theta + \cos^2\theta = 1$ *

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

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

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

$2 \cdot 1/\sin =$

$2\csc$ ☐