Fifth Quiz for Math 30

Name: _____

1. Prove the following identity:

$$\frac{\sin x + \cos x}{\sin x} - \frac{\cos x - \sin x}{\cos x} = \sec x \csc x$$

2. Given that $\sin 18^\circ = \dfrac{\sqrt{5}-1}{4}$ and $\cos 18^\circ = \dfrac{\sqrt{10+2\sqrt{5}}}{4}$, and that $\sin 30^\circ = \dfrac{1}{2}$ and $\cos 30^\circ = \dfrac{\sqrt{3}}{2}$, find exact values of $\sin 12^\circ$ and $\cos 12^\circ$