Practice – 3

Once you feel confident with proving identities, complete problems 1 to 3. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Verify the equation $\sin x \sec x = \tan x$ numerically using $x = \frac{\pi}{6}$.
2. Prove the equation $\frac{1 + \cos 2x}{\sin 2x} = \cot x$ is an identity for all permissible values of x.
3. Prove the equation $\csc^4 \theta - \cot^4 \theta = 1 + 2\cot^2 \theta$ is an identity for all permissible values of x.