Proofs Assignment

A. 2. Prove: **(5 marks)**

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

LEFT SIDE	RIGHT SIDE

B. 4. Prove: **(5 marks)**

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

LEFT SIDE	RIGHT SIDE

C. 5. Prove the identity: **(5 marks)**

$$\sin 2x(\tan x + \cot x) = 2$$

LEFT SIDE	RIGHT SIDE

D. 4. Solve $2\cos^2 x + \cos x - 1 = 0$ algebraically over the set of real numbers. (Give the general solution using exact values.) **(5 marks)**