Practice worksheet | Further trigonometry

Verifying identities

Name: _____ Date: _____

6 questions | 12 marks

1. Prove $\sec^2 x - \tan^2 x = 1$ wherever defined. [2 marks]

2. Show $\sin x/(1 + \cos x) = (1 - \cos x)/\sin x$ where both sides are defined. [2 marks]

3. Prove $(\sin x + \cos x)^2 = 1 + \sin 2x$. [2 marks]

4. Simplify $\cos^2 x/(1-\sin x)$, preserving restrictions. [2 marks]

5. Disprove $\tan(A+B)=\tan A+\tan B$ using $A=B=\pi/6$. [2 marks]

6. Prove $(\sec x-\tan x)(\sec x+\tan x)=1$. [2 marks]