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 $\frac{\sin x}{1+\cos x} = \frac{1-\cos x}{\sin x}$ where both sides are defined. [2 marks]

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

4. Simplify $\frac{\cos^2 x}{1-\sin x}$, preserving restrictions. [2 marks]

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

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