



Air maths tuition

Interact, engage and perform

Proving Trigonometric Identities

Prove $\frac{\sin A}{1 + \cos A} + \frac{1 + \cos A}{\sin A} \equiv \frac{2}{\sin A}$

Proof:

$$\frac{\sin A}{1 + \cos A} + \frac{1 + \cos A}{\sin A} \equiv \frac{\sin^2 A + (1 + \cos A)^2}{\sin A (1 + \cos A)} \quad \sin^2 A + \cos^2 A = 1$$

$$\equiv \frac{\sin^2 A + 1 + 2\cos A + \cos^2 A}{\sin A (1 + \cos A)}$$

$$\equiv \frac{2 + 2\cos A}{\sin A (1 + \cos A)}$$

$$\equiv \frac{2(1 + \cos A)}{\sin A (1 + \cos A)}$$

$$\equiv \frac{2}{\sin A}$$

With the acknowledgement of [Exam Solutions](#).
Find lots more revision sheets on [Air Maths Tuition](#).
[This Video](#)



Exam Solutions

maths made easy