

PROOF OF FORMULA 3.511.1

$$\int_0^{\infty} \frac{dx}{\cosh ax} = \frac{\pi}{2a}$$

Let $u = e^{ax}$ to obtain

$$\int_0^{\infty} \frac{dx}{\cosh ax} = \frac{2}{a} \int_1^{\infty} \frac{du}{u^2 + 1}.$$

The result is now elementary.