NEW FORMULA 3.511.4

The original formula is

$$\int_0^\infty \frac{\cosh ax}{\cosh bx}\,dx = \frac{\pi}{2b}\sec\left(\frac{\pi a}{2b}\right)$$

The change of variables $t = bx$ and replacing a/b by a gives the new formula (going back to x as the integration variable)

$$\int_0^\infty \frac{\cosh ax}{\cosh x}\,dx = \frac{\pi}{2}\sec\left(\frac{\pi a}{2}\right)$$