

NEW FORMULA 3.521.1

The original formula is

$$\int_0^{\infty} \frac{x dx}{\sinh ax} = \frac{\pi^2}{4a^2}$$

The change of variables $t = ax$ gives the new formula (going back to x as the integration variable)

$$\int_0^{\infty} \frac{x dx}{\sinh x} = \frac{\pi^2}{4}$$