

NEW FORMULA 3.411.4

The original formula is

$$\int_0^{\infty} \frac{x^{2n-1} dx}{e^{px} + 1} = (1 - 2^{1-2n}) \left(\frac{2\pi}{p} \right)^{2n} \frac{|B_{2n}|}{4n}$$

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

$$\int_0^{\infty} \frac{x^{2n-1} dx}{e^x + 1} = (1 - 2^{1-2n})(2\pi)^{2n} \frac{|B_{2n}|}{4n}$$