

FORMULA 3.419.5

$$\int_{-\infty}^{\infty} \frac{x^4 dx}{(\beta + e^x)(1 - e^{-x})} = \frac{(\pi^2 + \ln^2 \beta) (7\pi^2 + 3 \ln^2 \beta) \ln \beta}{15(\beta + 1)}$$