

FORMULA 4.252.4

$$\int_0^{\infty} \frac{x^{\mu-1} \ln x}{(x+a)^2} dx = \frac{(1-\mu)a^{\mu-2}\pi}{\sin \pi\mu} \left(\ln a - \cot \pi\mu + \frac{1}{\mu-1} \right)$$