

FORMULA 4.352.3

$$\int_0^{\infty} x^{n-1/2} e^{-\mu x} \ln x \, dx = \frac{\sqrt{\pi}(2n-1)!!}{2^n \mu^{n+1/2}} \left[2 \left(1 + \frac{1}{3} + \frac{1}{5} + \cdots + \frac{1}{2n-1} \right) - \gamma - \ln 4\mu \right]$$