

FORMULA 4.261.13

$$\int_0^1 \frac{x^{2n} \ln^2 x}{1-x^2} dx = 2 \sum_{k=n}^{\infty} \frac{1}{(2k+1)^3} = \frac{7}{4} \zeta(3) - 2 \sum_{k=1}^n \frac{1}{(2k-1)^3}$$