

**FORMULA 4.261.20**

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