

FORMULA 4.281.7

$$\int_0^1 \left[q - \frac{1}{2} + \frac{(1-x)(1+q \ln x) + x \ln x}{(1-x)^2} x^{q-1} \right] \frac{dx}{\ln x} = \frac{1}{2} - q - \ln \Gamma(q) + \frac{\ln 2\pi}{2} \quad q > 0$$