

FORMULA 4.269.5

$$\int_0^1 \frac{\sin t - x^n \sin [(n+1)t] + x^{n+1} \sin nt}{1 - 2x \cos t + x^2} \cdot \frac{dx}{\sqrt{\ln 1/x}} = \sqrt{\pi} \sum_{k=1}^n \frac{\sin kt}{\sqrt{k}} \quad |t| < \pi$$