

FORMULA 4.388.2

$$\int_0^{\pi/4} \ln \sin x \frac{\sin^{2n-1} x}{\cos^{2n+1} x} dx = \frac{1}{4n} \left[-\ln 2 + (-1)^n \ln 2 + \sum_{k=0}^{n-1} \frac{(-1)^k}{n-k} \right]$$