

FORMULA 4.392.2

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