FORMULA 4.293.6

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

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