2.79 п2 (1) $\int_0^{\frac{\pi}{4}} (\operatorname{tg} x - \operatorname{tg} x)\,dx = \int_0^{\frac{\pi}{4}} \operatorname{tg} x\,dx - \int_0^{\frac{\pi}{4}} \frac{\sin x}{\cos x}\,dx = \cos x \Big|_0^{\frac{\pi}{4}} - \int_0^{\frac{\pi}{4}} \frac{\sin x}{\cos x}\,dx =$

$= \frac{\sqrt{2}}{2} - \ln|\cos x| \Big|_0^{\pi/4} =$ $\quad -\int \frac{\sin x}{\cos x}\,dx = \int \frac{dt}{t} = \ln t \quad \begin{matrix} \cos x = t \\ -\sin x\,dx = dt \end{matrix} \quad (\text{ч.о})$

$\frac{\sqrt{2}}{2} - \ln\frac{\sqrt{2}}{2} + \ln 1 = \frac{\sqrt{2}}{2} - \ln\frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2} - \ln 2^{-1/2} = \frac{\sqrt{2}}{2} - \frac{1}{2}\ln 2$