4.7
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$$\int_0^{\frac{\pi}{2}} \frac{\sin x}{1+\cos x}\,dx = \left\| \begin{array}{l} 1+\cos x = t \\ -\sin x\,dx = dt \\ \sin x\,dx = -dt \end{array} \right\| = \int \frac{-dt}{t} = -\ln|t| = -\ln|1+\cos x| \Big|_0^{\pi/2} = -\ln 1 + \ln 2 = +\ln 2$$