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(1)

(ii)

別解

 $e^x = t$ とおくと,

$$\int_{-1}^1 \frac{dx}{1+e^x} = \int_{\frac{1}{e}}^e \frac{dt}{t(1+t)} = \int_{\frac{1}{e}}^e \left(\frac{1}{t} - \frac{1}{1+t} \right) dt = \left[\log \frac{t}{1+t} \right]_{\frac{1}{e}}^e = 1$$