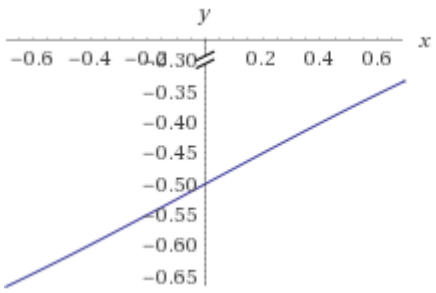
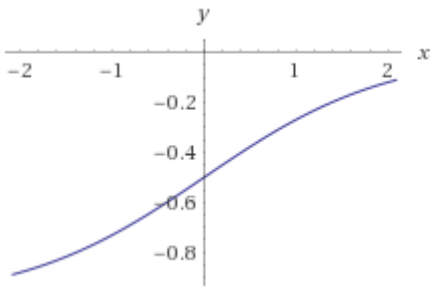
Indefinite integral

$$\int \frac{e^x}{e^{2x} + 2\,e^x + 1}\,dx = -\frac{1}{e^x + 1} + \text{constant}$$

Plots of the integral



(x from −0.7 to 0.7)



(x from −2.1 to 2.1)

Series expansion of the integral at x=0

$$-\frac{1}{2} + \frac{x}{4} - \frac{x^3}{48} + \frac{x^5}{480} + O\left(x^6\right)$$

(Taylor series)

Definite integral

$$\int_0^\infty \frac{e^x}{1 + 2\,e^x + e^{2x}}\,dx = \frac{1}{2} = 0.5$$