

102. Let $y = (e^x + x)^{1/x}$.

$$\ln y = \frac{1}{x} \ln(e^x + x) = \frac{\ln(e^x + x)}{x}$$

$$\lim_{x \rightarrow 0} \frac{\ln(e^x + x)}{x} = \lim_{x \rightarrow 0} \frac{e^x + 1}{e^x + x} = \frac{2}{1} = 2$$

$$\text{So, } \lim_{x \rightarrow 0} (e^x + x)^{1/x} = e^2.$$

Let $c = e^2 \approx 7.389$.