Equivalent definitions of Euler's number

Prove that the following are equiavent:

$$(1) e = \lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n$$

(2)
$$e$$
 is the unique number such that $1 = \lim_{h \to 0} \frac{e^h - 1}{h}$