$$\lim_{n \to +\infty} \frac{e^n - e^{-n}}{e^n + e^{-n}} = \lim_{n \to +\infty} \frac{e^n \left(1 - e^{-2n}\right)}{e^n \left(1 + e^{-2n}\right)}$$

$$=\lim_{N\to+\infty}\frac{e^{n}\left(1-\frac{1}{e^{2n}}\right)}{e^{n}\left(1+\frac{1}{e^{2n}}\right)}=\frac{1}{1}$$

So the sequence converges to 1.