$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$$

$$e^x + 2e^{-x} = \sum_{n=0}^{\infty} \frac{x^n}{n!} + 2\sum_{n=0}^{\infty} \frac{(-x)^n}{n!} \boxed{= \sum_{n=0}^{\infty} \frac{x^n}{n!} \left(1 + 2(-1)^n\right)}$$