

問 1

$$\begin{aligned}(1) \sin x &= \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n+1)!} x^{2n+1} \\ \cos x &= \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n)!} x^{2n} (x \in \mathbb{R}) \text{ を示せ。}\end{aligned}$$

$$(2) e^{ix} = \cos x + i \sin x \text{ を示せ。}$$