# Exercise 8

**Task 1**
Show that $\mathrm{Th}(\mathbb{C}, +, \cdot)$ is decidable.

**Task 2**
Show that $\mathrm{Th}(\mathbb{R}, +, \cdot)$ is decidable if and only if $\mathrm{Th}(\mathbb{R}, +, \cdot, <, 0, 1, -1)$ is decidable.

**Task 3**
Show that the set of natural numbers $\mathbb{N}$ cannot be defined in $(\mathbb{R}, +, \cdot)$ (without using the fact that $\mathrm{Th}(\mathbb{N}, +, \cdot)$ is undecidable).