Exercise 1. Let $A \subset \mathbb{C}$ be a domain and let $f, g : A \to \mathbb{C}$ be analytic on A. Show that if $\operatorname{Re} f = \operatorname{Re} g$, then $f = g + ia$ for some $a \in \mathbb{R}$.

Exercise 2. Textbook exercise 1.5.22.

Exercise 3. Textbook exercise 1.5.25.