



COMPLEX VARIABLES  
FALL 2024

ASSIGNMENT 8.1  
DUE OCTOBER 23

**Exercise 1.** Let  $A \subset \mathbb{C}$  be a domain and let  $f, g : A \rightarrow \mathbb{C}$  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.