

# MATH 2250, Fall 2010.

## Homework assignment, Sept. 8, 2010

1. p. 108, #4, 5

2. Write chain rule in terms of  $\partial$  and  $\bar{\partial}$  derivatives. Namely, assuming that  $f$  and  $w$  are  $C^1$  functions (as functions of 2 real variables, they are not assumed to be complex differentiable) express

$$\frac{\partial f(w(z))}{\partial z} \quad \text{and} \quad \frac{\partial f(w(z))}{\partial \bar{z}}$$

in terms of

$$\frac{\partial f}{\partial w}, \quad \frac{\partial f}{\partial \bar{w}}, \quad \frac{\partial w}{\partial z}, \quad \frac{\partial w}{\partial \bar{z}}$$

**Hint:** Use formula for the differential.