

COMPLEX ANALYSIS, HW # 1

Chapter 5, problems 2, 3, 8, 10, 13, 18, and this problem:

Problem 1.

Let f be an analytic function that maps the open disc into itself and vanishes at the origin. Prove that for all $z \in D(0, 1)$ we have

$$|f(z) + f(-z)| \leq 2|z|^2$$