

Assignment 6: due Thursday Apr 8

I. *Autour de l'application de Riemann; über die Abbildung Riemanns:*

A. Let K be a compact subset of the plane and K' a compact set with K in the interior of K' . Suppose that $\{f_n\}$ is a sequence of holomorphic functions converging uniformly to a function f on K' . Show that $\{f'_n\}$ converges uniformly to f' on K .

B. Suppose that f is a non-constant complex-analytic function that is not one-to-one on the region G , and suppose that $\{f_n\}$ is a sequence of holomorphic functions on G converging uniformly on compact sets to f . Show that f_n is not one-to-one for n sufficiently large.

C. From the textbook: p.130 #2, 4, 5; p.133 #6, 8; p.150 #7, 8.