

# Supplementary homework 1

November 2, 2007

1. Suppose that a linear fractional transformation carries one pair of concentric circles into another concentric circles. Prove that the ratio of the radii must be the same.
2. Find a conformal map which maps the common part of the disks  $|Z| < 1$  and  $|z - 1| < 1$  on the inside of the unit circle.