

MATH 425, Homework 3

due Friday, September 18

Read Chapter III of Sarason and do

III.5.1

III.9.1

III.9.2

III.9.6

plus the following problem:

Show that if a is a point in the unit disc, then

$$\phi(z) = \frac{z - a}{1 - \bar{a}z}$$

is such that $|\phi(z)| < 1$ if $|z| < 1$. Next, show that ϕ is a *one-to-one* analytic map of the unit disc *onto* itself. Hint: What is the inverse of ϕ ?