# Homework 7

## Due: Friday, November 14

### November 13, 2008

1. Let $A$ be he Euclidean line segment joining $-1 + 2i$ to $1 + 2i$, and let $B$ be the hyperbolic line segment joining $-1 + 2i$ to $1 + 2i$. Calculate the hyperbolic lengths of $A$ and $B$. How do these lengths compare?

2. Exercise 3.9.

3. Find the hyperbolic distance between each pair of the three points $-1 + 2i$, $3 + 2i$, and $i$.

4. Exercise 3.13.

5. Repeat Problem 3 calculating hyperbolic distance between each pair of points the short way (using the cross ratio shown in class).