

MA 398 Homework 10: Are you linear or antilinear?

1. HUTS

In class we showed that every isometry of \mathbb{H}^2 is an (anti-)linear fractional map. Our proof was essentially Bonahon's. This homework asks you to compare what we did with what Bonahon and Schwarz do.

- (1) Read Bonahon, Section 2.4 and Schwarz, Sections 10.1 - 10.3.
- (2) Summarize the essential differences in approaches between Bonahon and Schwartz to proving the basic properties of the hyperbolic plane (i.e. classification of geodesics and classification of isometries.)
- (3) Ignoring differences in exposition style, whose approach do you prefer and why? whose approach do you find more convincing?
- (4) Summarize the similarities and differences in expositional style between Bonahon and Schwarz. What do you like or dislike about each.