

Comprehension questions

PROBLEM 34.1. *What is the geodesic connecting the points $(-1, 1)$ and $(1, 1)$?*

PROBLEM 34.2. *What's the hyperbolic circle with (hyperbolic) center $(1, 1)$ and (hyperbolic) radius $\ln(2)$?*

PROBLEM 34.3. *Take any geodesic going through the point $(0, 1)$, and any hyperbolic circle centered at that point. Show that those intersect each other orthogonally. (Hint for those who have forgotten all their school geometry: there's a criterion for when two circles in Euclidean geometry intersect orthogonally, using Pythagoras in reverse.)*

PROBLEM 34.4. *Show that $\text{dist}(-1/z, -1/w) = \text{dist}(z, w)$.*

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