

Homework 12 due Friday 4/22

1. (10 points) Let r be a P-ray, i.e. a ray in the Poincaré disk model. Give a careful definition of 'tangent ray'. Put differently, which ray in the original Euclidean plane would you call tangent to the P-ray.
2. (10 points) Let l be a P-line through \hat{O} . Show that l corresponds to a Euclidean line.
3. (10 points) Sketch isosceles triangles $\Delta_{A\hat{O}B}$ with a right angle at \hat{O} such that the Poincaré length of $A\hat{O}$ equals $\frac{1}{10}, 1, 10, 1000$. Give a rough estimate of the angle sum of the different triangles.
4. (10 points) What's the smallest possible angle sum of a triangle in the Poincaré disk model?
5. (5 points) Comment on the size of the bats on the cover of the book.
6. (15 points) Prove betweenness axiom 4.