

MATH 402 Limiting Parallels practice

Optional; hand in by Monday October 30 if you want feedback

Exercise 1. We proved that if m is limiting parallel to ℓ at a point $P \in m$, then it is also limiting parallel to ℓ at any other point $P' \in m$. Illustrate this in the Klein model and prove why it must be true in that model using properties of the model.

Exercise 2. We will prove that if m and n are limiting parallel to ℓ (at the same end), then m and n are also limiting parallel to each other. Illustrate this in the Klein model, and prove why it must be true in that model using properties of the model.

Exercise 3. Let ℓ be a line, let r_ℓ be reflection across ℓ , and let m be limiting parallel to ℓ . Prove that $r_\ell(m)$ is limiting parallel to ℓ .