Fundamental Groups and Covering Spaces Final Fall 2021 Keiko Kawamuro

- 1. List all the path connected covering spaces of a Möbius band and describe their covering maps.
- 2. Compute the fundamental group of an oriented genus 2 closed surface Σ_2 .
- 3. Compute the fundamental group of an oriented genus 2 surface with one hole (one disk removed from Σ_2).
- 4. Find all the 3-sheeted normal covering maps of $S^1 \vee S^1$ (including non-path-connected ones) and their corresponding deck transformation groups.