

# Exercises

June 12, 2022

## 1 Exercises

1. Construct a system of curves corresponding to the braid below:



Figure 1:

2. Prove that the Burau representation is indeed a representation of the braid group.
3. Construct a chain of Markov moves from the braid  $(3,4)$  to the braid  $(4,3)$ .
4. Calculate the dimension of the space of chord diagram modulo  $1T$  and  $4T$  for chord diagrams with 3 chords.
5. Calculate the dimension of the space of chord diagram modulo  $1T$  and  $4T$  for chord diagrams with 4 chords.