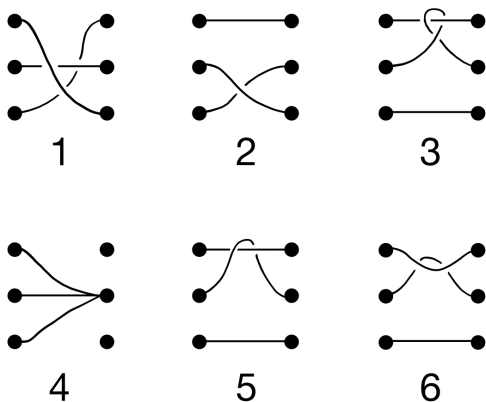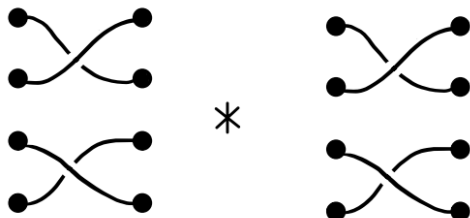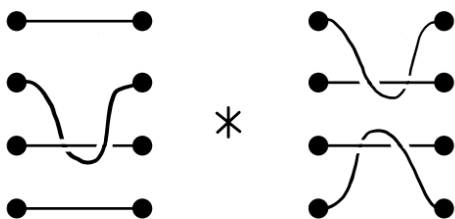# Grade 9/10 Math Circles

## April 5, 2023

## An Introduction to Group Theory Part 3 - Problem Set

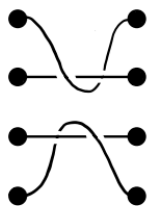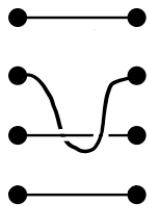1. Identify which of the below diagrams are 3-braids.



2. Compute the following two concatenations:

3. Compute the inverses of the following two braids:



4. Consider the set $B_n$ of all $n$-braids, where $n \in \{1, 2, 3, \dots\}$. Is $B_n$ finite or infinite?