

Overview: the rank and lower bounds

- What are braid groups?
- What is the rank of a braid?
- Ways to find bounds on the rank.

Braid groups

- Braid group on n -strands B_n :
 - positive generators: $\{\sigma_1, \dots, \sigma_{n-1}\}$
 - $\sigma_i \sigma_{i+1} \sigma_i = \sigma_{i+1} \sigma_i \sigma_{i+1}$
 - $\sigma_j \sigma_i = \sigma_i \sigma_j, |i - j| \geq 2$

$$12\bar{3}2\bar{1}4 \in B_5$$