Spring 2018/MA 434 HW 10: Free Groups

1. READING:

Read Sections 3.1 - 3.5. Anything which will be presented (see below) you do not need to read carefully (unless you are the one presenting it!). Also, we will go through the proof of Theorem 3.20 together. It is arguably the foundational result of geometric and combinatorial group theory.

2. Homework:

- (1) **Brian** should be prepared to present a proof of Exercise 3.13 next time. Begin by stating Proposition 3.12 and defining the terminology.
- (2) **Shabab** should be prepared to present the material on page 66 of the text, including a proof of Exercise 3.14. You should also explain how this proves Proposition 3.12.
- (3) Liwei should be prepared to present Theorem 3.15 and Corollary 3.16 and their proofs.
- (4) **Haoyu** should be prepared to present the definition of the group $\mathbb{Z}_3 * \mathbb{Z}_4$, as well as its action on the tree $\mathscr{T}_{3,4}$, given on pages 73 77.
- (5) Start work on Exercise (4).
- (6) Do Exercises (2) and (6). If you are one of the people listed above, you only need to do one of these.