

Math 264C, Spring 2021  
Homework 3

- (1) For each of the four infinite families of affine Weyl groups, give a formula for the length of  $t_x$  for  $x \in T_{L^\vee}$  using the explicit descriptions of the coroot lattices from lecture in each case.
- (2) Give a direct proof of Bott's formula (Theorem 4.19) for  $\tilde{\mathfrak{S}}_3$  using Proposition 4.23.
- (3) Compute all of the R-polynomials for  $\mathfrak{S}_3$ .