

MATH 648, PROBLEM SET 3

These problems are due in class on Mar. 25.

- (1) Maclagan-Sturmfels, exercise 3.8.
- (2) Maclagan-Sturmfels, exercise 3.13.

You may interpret this problem in two different ways, at your choice. Option one: Is the transverse intersection of two polyhedral complexes which are balanced with all weights equal to 1, balanced, if we again set all weights to 1? Option two: Is there some set of weights we can put on the transverse intersection of two balanced polyhedral complexes which will make it balanced? You may find it helpful to consider the equation in Lemma 3.6.4.

- (3) Maclagan-Sturmfels, exercise 3.19. (Hint: it is not possible to find a direct proof of a false statement.)