
Homework 4

Due: October 20, 2016

1. (Not to hand in) Show that any two-dimensional Lie algebra is solvable. (You did the group version of this in Homework 3. The Lie algebra version is considerably easier!)
2. Exercise 10.23.
3. (Not to hand in; I partially covered these in class) Exercises 10.25 and 10.26.
4. Exercise 10.27.
5. Give a basis for the Lie algebra of Sp_{2n} . Find the roots and root spaces. (See Exercise 10.29.)