

Math 349: Matrix Groups: Introduction to Lie Groups
Professor Kerr

Assignment 10: Maximal Tori. (Last One!)

This assignment is due in class on Friday May 2.

- (1) Let T be a maximal torus in a matrix group G and let x be any element of G . Prove that xTx^{-1} is also a maximal torus in G .
- (2) Tapp, # 9.1, p. 160. Note that you will need to distinguish between the cases $SO(\text{odd})$ and $SO(\text{even})$.
- (3) Tapp, # 9.4, p. 161.
- (4) Tapp, # 9.9 (1), p. 161.
- (5) Tapp, # 9.9 (2), p. 161.
- (6) Tapp, # 9.9 (3), p. 162.