

Algebra 1 : Sixth homework — due Monday, November 24

Do the following exercises from Fulton and Harris:

11.9, 11.10, 11.13, 11.14

Also, verify that if V is any representation of \mathfrak{sl}_2 , show that the operator

$$X_+X_- + \frac{1}{4}H^2 - \frac{1}{2}H$$

on V commutes with all the operators on V coming from the elements of \mathfrak{sl}_2 .