

Homework 7

1. Srednicki problem 84.1
2. Consider an $SU(6)$ gauge theory with an adjoint Higgs that acquires a vev of the form

$$\langle \Phi \rangle = v \operatorname{diag}(-1/3, -1/3, -1/3, +1/3, +1/3, +1/3).$$

Find the unbroken gauge group H , the transformation properties under H of the gauge bosons that acquire a mass and the value(s) of their mass.

3. Srednicki problem 87.1
4. Srednicki problem 87.4
5. Problem 2 chapter 21 of Weinberg.
6. Srednicki problem 88.2
7. Srednicki problem 88.3.
8. Srednicki problem 88.5 parts a and b.