

## Homework 3, due 11-29

Use  $SU(3)$  symmetry in order to relate the magnetic moments of the octet baryons. You can express all magnetic moments in terms of the magnetic moments of the proton and the neutron. Use the fact that the magnetic moment is given by a matrix element that involves the electric charge  $Q$ , and that

$$Q = e \begin{pmatrix} \frac{2}{3} & 0 & 0 \\ 0 & -\frac{1}{3} & 0 \\ 0 & 0 & -\frac{1}{3} \end{pmatrix}.$$

Magnetic moments are tabulated in the particle data booklet. Try to check how well the  $SU(3)$  relations work.