

Problem Set 7
(The Hydrogen Atom and Angular Momentum)

1. Show explicitly that ψ_{2p_x} and ψ_{2p_y} are orthonormal. (This requires doing integrals over r , θ , and ϕ for each of the three combinations...)
2. Do problem 6-17 in McQuarrie and Simon
3. Do problem 6-21 in McQuarrie and Simon
4. Do problem 6-25 in McQuarrie and Simon
5. Do problem 6-45 in McQuarrie and Simon
6. Do problem 6-46 in McQuarrie and Simon