

For Monday 12/3, read Griffiths' section 6.3 and turn in by 9:30 am:

1. Conceptual: Equation 6.57 explains a dilemma we've had since chapter 5. How does this equation explain why, in a hydrogen atom, the s -shell fills before the p -shell?
2. Easy Math: There is no spin-orbit interaction if an electron is in an s state ($l=0$). Physically, why is this?
3. Math: Griffiths 6.12 (Hint: start with 2nd eq. in 4.191.)
4. Math: Griffiths 6.13 (The answer to 4.43 is $\langle r^s \rangle = \frac{(s+6)!}{6!} \left(\frac{3a}{2}\right)^s$.)
5. Math: Griffiths: 6.17

For Wednesday 12/5, read Griffiths sections 6.5 and turn in by 9:30 am:

1. Conceptual: List all the perturbations we've added to the hydrogen atom from chapter 4.
2. Conceptual: What major perturbation have we not addressed? (Hint: see section 5.2.1.)
3. Easy Math: Explicitly calculate 6.93 and 6.94 (including units).

"For realz" weekly homework due 9:30 am on Friday 12/7 is math problems from 11/30, 12/3 and 12/5.

For Friday 12/7, turn in by 2:30 pm:

1. Conceptual: Go back to the course syllabus and read the course goals. Can you do these things? What other things can you do? What would you have liked to work on more?

For Monday 12/10, turn in by 9:30 am:

1. List of equations you want on the final exam on Thursday. I will post the actual list by Tuesday.