Physics 471 – Fall 2008

Homework #2, due Friday, September 12

- 1. Griffiths problem 1.4, parts (a)-(d) only.
- 2. Griffiths problem 1.7.
- Griffiths problem 1.9.
 Hints: For part (b), write all the derivatives of ψ as polynomials in x times ψ itself, then ψ will factor out of the Schrodinger equation.
 For part (c), you can save some work if you write <p²> in terms of <x²>, which you have already calculated.
- 4. Griffiths problem 2.4. To calculate $\langle x^2 \rangle$, use $\sin^2\theta = [1 \cos(2\theta)]/2$, then integrate by parts, then finally use the integrals on the inside back cover of your textbook. (If you find an easier way, let me know.)