Reading: Please read chapter 7 in Griffiths.

1. Griffiths 7.2. This problem asks for the best bound on the ground-state energy of the harmonic oscillator using a Lorentzian trial wave function.

2. Griffiths 7.7. This problem asks you to apply the variational method for the H− and Li+ ions, following the approach in the text.

3. Griffiths 7.11. This problem asks you to use a half cosine wave as a trial wave function to find a bound for the ground-state energy of the harmonic oscillator.

4. Griffiths 7.13. This problem asks you to use a Gaussian trial wave function to find a bound on the hydrogen ground-state energy.