Phys 448 HW 5

1) BD 4.2
2) BD 4.3
3) BD 4.5
4) BD 4.6
5) This past week we used the argument that an integer number of half-wavelengths fits within the classically allowed region of the potential in order to estimate the energy levels. How might you generalize this principle to a spatially varying potential? (Hint: think *k(x)*, not $\lambda(x)$) Use this idea to estimate the energy levels for Rb atoms moving the potential $V(x) = b|x|$ with b=14 mK/cm.
6) Numerically calculate the lowest 5 energy levels in this potential and compare to your predictions from 5).