

1. Read Griffiths sections 2-3 and 2-4. Did you read all the pages?
2. Griffiths 1.9
3. Consider a particle of mass m in an infinite square well of width a . Find:
 - (a) the energy E_1 of the lowest level.
 - (b) the energy E_2 of the next level.
 - (c) the expectation value $\langle E_2 \rangle$ in the second level.
 - (d) the expectation value $\langle E_2^2 \rangle$ in the second level.
 - (e) the uncertainty in E_2 which Griffiths calls σ_{E_2} and the rest of the world calls ΔE_2 .
 - (f) using the Uncertainty Principle for energy and time, the uncertainty in the lifetime of the state σ_{t_2} or Δt_2 .
 - (g) If you put a particle in the state above the ground state, why does it not decay to the ground state and release energy?