1. In Problem 4.5, two perpendicular dipoles are shown. Instead of answering this question, find the force on each dipole, due to the other dipole. There are various ways to do this problem, but the easiest is to figure out how to take the derivative of the E-field while maintaining everything in spherical coordinates (hint: for one of the dipoles you will want to vary $r$, and for the other one you will want to vary theta.) Don’t plug in values for $r$ and theta until after you take your derivative!

2. Problem 4.10 (same in 3rd and 4th editions; $P(r)=kr$ in a sphere.)

3. Problem 4.15 (similar to 4.10, except now $P=k/r$, and there’s a way to check your answer using $D$.)

4. Problem 4.18 (same in both editions).