1. [From Test 2, Spring 2008] A very long dielectric cylinder of radius $R$ and dielectric constant $\kappa = \varepsilon / \varepsilon_0$ is placed in a field $E_0$ perpendicular to its axis. What is the electric field $E$ inside the dielectric cylinder?

   i. Use just $E$, not the potential.

   ii. Use the potential $\Phi(\rho, \phi)$.

2. Jackson’s problem 2.1

3. Jackson’s problem 2.3

4. Jackson’s problem 2.28 (Trivial with hindsight)

5. Jackson’s problem 4.11 (Experiment!)