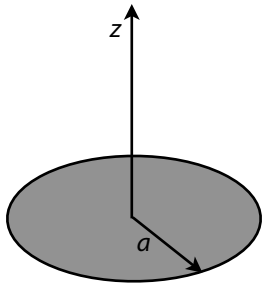
EP440: ENGINEERING ELECTROMAGNETICS
Fall 2014, J. B. Snively
Homework #3: Due 9/15/2014

For this assignment... Work out the following problems on separate sheets. Staple all, including this front page, for your submission.

1) The charged circular disk has radius a and surface charge density ρ_s. Find *by integration* the electric potential at a distance z above the center of the charge distributions.



2) Find the electric field E_z due to the charge distribution above using the potential gradient. Confirm agreement with your result from last week's assignment.

3) Repeat Example 3-12 from Cheng, p.111, but for the case of *cylinders* (instead of spheres).

4) Cheng P.3-34.

5) Cheng P.3-36.

6) Cheng P.3-44, Part (a) Only.