

P506

Problem Set #2

Due Sept. 21, 2010

1) Jackson problem 1.10

2) Jackson problem 1.12

3) A charge Q is spread uniformly in a thin disk of radius a centered in the x - y plane. What is the force on a point charge q located on the axis of symmetry (z axis) as a function of z ?

4) (a) A charge is placed at (x',y') near a corner of two conducting surfaces in the x - z and y - z planes. Use the method of images to find the force (direction and magnitude) on the charge.

(b) Write down the Green's function $G_D(x,y,z;x',y',z')$ for this geometry.

