

Class Problems and Homework
Physics 403: Mathematical Methods
February 6, 2008

Problems: Instructor, group and homework.

1. Complete problems 6.67, 6.68.
2. Complete problems 6.92, 6.100.
3. Consider a point charge of magnitude $q = 5.0$ nC. The point charge is at the center of a cube whose sides have a length of 2 m.
 - (a) Using Gauss' Law, determine the electric flux through the top surface of the cube.
Hint: the top surface of the cube is one sixth of the total area of the cube.
 - (b) Explicitly compute the flux through the top of the cube.