

Math 5C, Supplemental Homework Problems

Due: 17 Jan. 2007

You may print out this page and write your solutions on it.

1. Find the mass of a ball of radius 1, centered at the origin, with density function

$$\delta(x, y, z) = (1 + x^2 + y^2 + z^2)^{-1}.$$

2. Use cylindrical coordinates (no, they're not necessary, but use them anyway for practice) to find the volume of the region bounded by the xy -plane and the surface $z = 4 - x^2 - y^2$.