

Homework 9, due Friday 3/25

1. p. 390, problems 1, 9, 13
2. p. 392, problems 19, 20, 21
3. p. 392, problems 22, 24 (first sketch the regions)
4. p. 392, problem 23
5. The density of a ball is given by $\rho(x, y, z) = \sin(x^2 + y^2 + z^2)$. Find the x and the y -coordinates of the center of mass of the *upper hemisphere* of the ball.
6. p. 392, problem 26
7. p. 404, problems 5, 10
8. Determine $\int_{\mathbb{R}^2} \frac{1}{(x^2 + y^2)^3} dA$.