

Homework 7, due Friday 3/3

1. p. 353, problems (1) (a), 2 (b), (c)
2. Let R be the region given by removing the rectangle with vertices $(1, 0), (1, 2), (-1, 2), (-1, 0)$ from the circle with radius 4 around the origin. Compute $\iint_R xy \, dA$.
3. p. 363, problems 2,3
4. p. 364, problem 9 (recall that the volume equals $\iiint 1 \, dV$), from $z = x^2 + y^2$ it follows that $z \geq 0$, use this in the second equation to find the x -limits and the y -limits.
5. p. 364, problem 10 (use first equation to get the x -limits and the y -limits in terms of x , then use the remaining two equations to get the z -limits in terms of x and y).
6. p. 364, problem 11 (you can assume that $x, y, z \geq 0$)
7. p. 364, problems 14, 15 (you can assume that $x, y, z \geq 0$)
8. p. 364, problem 16, 17
9. p. 365, problems 23, 25
10. Reread chapter 1.4 about polar coordinates, cylindrical coordinates and spherical coordinates.