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**Homework 8, due Friday 3/18**

1. p. 363, problems 2,3
2. p. 364, problem 9 (recall that the volume equals  $\int \int \int 1 dV$ ), 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.
3. 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  $y$ ).
4. p. 364, problem 11 (you can assume that  $x, y, z \geq 0$ )
5. p. 364, problems 14, 15 (you can assume that  $x, y, z \geq 0$ )
6. p. 364, problem 16
7. p. 365, problems 23,25
8. p. 273, problems 1,3,6,7
9. p. 281, problems 1,7,8
10. Reread chapter 1.4 about polar coordinates, cylindrical coordinates and spherical coordinates.