1 Solve and turn in the following problems:

1. Let $0 \leq R \leq 1$. Compute the volume of the following 3-dimensional shape: the intersection of the cylinder given by $x^2 + y^2 \leq R^2$ and the ball of radius 1 centered at the origin.

2 Solve but do not turn in the following problems:

Section 15.6: 1, 11, 25, 29, 31
Section 15.7: 1, 7, 15, 21, 27, 33, 39, 43, 53
Section 15.8: 1, 9, 11, 15