

MAT 21 D - Problem Set 3
Due beginning of class (midterm 1) on April
26th

Problem numbers are from Thomas' Calculus, 13th edition. If unsure about which problem to solve, ask. Collaboration is permitted but every student must write his or her own solution; looking for solutions from external sources (books, the web, material from previous years, etc.) is prohibited.

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