

Assignment 4

Coverage: 15.5, 15.6 in Text.

Exercises: 15.5. no 3, 4, 21, 23, 25, 29, 32, 33, 38, 39, 42, 44; 15.6. no 12, 13, 14, 21.

Submit 15.5 no. 29, 33, 39, 42 by Oct 5.

Supplementary Problems

1. Let D be a region lying on the first quadrant and Ω the solid obtained by rotating D around the y -axis. Show that the volume of Ω , $|\Omega|$, is given by the formula

$$|\Omega| = |D|d ,$$

where $|D|$ is the area of D and d is the distance traveled by the centroid of D . Suggestion: Back to the Riemann sums.