

MATH 1501 Homework Assignments for Chapter 6, Fall 2007, WTT

Main Topics.

- Applications of the basic definition of a definite integral as a limit of a Riemann sum;

$$\int_a^b f(x)dx = \lim_{\mu(P) \rightarrow 0} \sum_{i=1}^n f(t_i)(x_i - x_{i-1})$$

- Volumes by parallel cross sections: slices, disks, wafers.
- Volume by cylindrical shells.
- Centroids of plane regions.
- Pappus's theorem for volumes.
- Work and fluid force.
- Mean value theorem for integrals

Homework problems from the text. All odd numbered problems have answers in the back of the textbook.

- Section 6.2: 5, 11, 19, 25, 29, 35
- Section 6.3: 5, 9, 17, 21, 37
- Section 6.4: 3, 9, 21, 29, 31
- Section 6.5: 5, 7, 11, 13, 21, 25, 29
- Section 6.6: 3, 8, 11
- Chapter 6 Review: 3, 7, 11, 15, 19, 35, 43