

MATH 2413 Spring 2012, Lectures 40-42

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Outline of Sections 6.1–6.3

1. Area between curves $y = f(x)$, $y = g(x)$, $a \leq x \leq b$:

$$\int_a^b |f(x) - g(x)| dx.$$

2. Area between curves $x = f(y)$, $x = g(y)$, $c \leq y \leq d$:

$$\int_c^d |f(y) - g(y)| dy,$$

Namely, $A = \int_c^d (x_R - x_L) dy$.

3. Volumes: If the cross sectional area of a solid S is $A(x)$, $a \leq x \leq b$, then the volume of S is

$$V = \int_a^b A(x) dx.$$

4. Volume V of solids of revolution. Disk/washer/shell method.