Math138 - January 22'th, 2016

Recapping Volumes, Average Value of Functions

Recap: Two Methods

#1 Disks and Washers

$A(x) = \pi(\text{outerRad}^2 - \text{innerRad}^2)$

#2 Cylindrical Shells

$A(x) = 2\pi rh$

Two things to consider:

#1 Which variable do we want to use?

#2 What does the region look like?

Volumes of Revolution Chart

	Functions of x	Functions of y
Rotating around horizontal line	**Disks/Washers**	**Cylinders**
Rotating around vertical line	**Cylinders**	**Disks/Washers**

Average Volume of a Function

The **Average value** of $f(x)$ from $x = a$ to $x = b$ is:

$$f_{\text{avg}} = \frac{1}{b-a}\int_a^b f(x)\,dx$$