

	Objectives	Rate your understanding of the objective				
Objective 1	Understand how to find a volume by integrating the area of a cross section.	1	2	3	4	5
Objective 2	Calculate solids of revolution with the washer method.	1	2	3	4	5
Objective 3	Calculate solids of revolution with the disk method.	1	2	3	4	5

### Warmup

Write, but do not evaluate, an expression that finds the volume formed by revolving these regions around these lines. (By yourself)

- The region under  $y = -x^2 + 4$  in the first quadrant
  - The x-axis.
  - The y-axis.
  - $x = 2$
- The region, in the first quadrant, below  $y = x^3$  and to the left of  $x = 3$ 
  - The x-axis.
  - The y-axis.
  - $x = 5$

### Problems

These problems involve the disk method and the washer method. You may reference Examples 205 and 207 in your example packet. (In groups)

- Find the volume of a solid formed by revolving the curves  $x = \sin(y) + y$  and  $x = \sin(y) + 0.5 \cdot y$  around the y-axis, bounded by  $y = 0$  and  $y = 2\pi$ .
- Consider the region between the curves  $y = x^2$ ,  $x = 1$  and  $y = 0$ . Find the volume of the solid formed by revolving this region about the following lines.
  - $y = 0$
  - $x = 0$
  - $x = 1$
  - $y = 1$
  - $x = 2$
  - $y = 2$
  - $y = -1$

### Self Quiz

(By yourself)

- Use the regions described in the Warm Up section and then revolve them around the line  $y = 4$ . Find the volumes of the solids formed.

### Reflection

	Objectives	Rate your understanding of the objective				
Objective 1	Understand how to find a volume by integrating the area of a cross section.	1	2	3	4	5
Objective 2	Calculate solids of revolution with the washer method.	1	2	3	4	5
Objective 3	Calculate solids of revolution with the disk method.	1	2	3	4	5

### Study Skills:

- Remember to read through examples from the book BEFORE your professor goes over the section in class.
- After class read through the examples in your notes from that day and try to do the problems yourself (without looking at your notes).
- After class read through the examples from the book in the section you JUST covered and make sure you understand them.