MATH 3B

Discussion Worksheet - Thursday, April 26

Finding Volumes of Solids:

- Graphing Tips:

  (1) Know the graphs of common functions

  (2) Know the basic transformations of graphs

  (3) To make sure your graph is the right shape,

- Visualizing the Solid Tips:

  (1) Be sure to use

  (2) Sketch

  (3) Sketch

Disk and Washer Method Review:

- Disk Method:

- Washer Method:

Example: Find the volume of the solid obtained by rotating the region bounded by the curves $y = e^{-x}$, $y = 1$, $x = 2$ about the line $y = 2$.

Method of Cylindrical Shells:

- First, let's recall the volume of a cylindrical shell:

- When do we use method of cylidrical shells?

Example: Find the volume of the solid obtained by rotating about the y-axis, the revion between $y = x$ and $y = x^2$ using both the washer method and the shell method.

Shell Method Tips:

(1) The major change with shell method is, when revolving about the y axis,

(2)