

Calculus Class Worksheet #2 Unit 11 _____

Use washers to find the volume generated by rotating the given region about the given line.

For each problem, you must

- sketch the generating region, showing a typical generating rectangle,
- write an expression for the volume generated by this rectangle,
- express the exact volume of the solid as a definite integral, and
- evaluate the integral.

Show all of your work neatly organized on graph paper.

1. The region bounded by $y = 10 - x^2$ and $y = 1$ is rotated about the (A) x-axis; (B) line $y = -2$.

2. The region enclosed by $x = 2y^2$ and $x = 2y$ is rotated about the (A) x-axis; (B) y-axis; (C) line $x = 3$.