

Name _____

Homework 9
Section 8.2

1. (2ea) *Set-up* an integral which represents the volume of the solid resulting from rotating the area bounded by the graph of $y = 4x^2$, the x -axis, y -axis, and $x = 1$ around the given line.

Here's some space to sketch...

(a) x -axis

(c) $x = 1$

(b) y -axis

(d) $y = 8$

2. (6) Find the volume of the solid obtained by rotating the region bounded by $y = 2\sqrt{x}$ and $y = \frac{1}{2}x$ about the x -axis.

3. (6) Let W be the solid whose base is in the xy -plane bounded by the curves $y = x^2 + 2$ and $y = 11$ and whose cross-sections perpendicular to the x -axis are semi-circles with their diameter lying in the xy -plane. Determine the volume of the solid W .