

Volumes Review

1.) Find the volumes when:

- a.) The region bounded by the graph of $y = 2x - x^2$ and the x-axis is revolved about the y-axis.
- b.) The region in Quadrant I bounded by the parabola $y = 4 - x^2$ is rotated about the y-axis to form a solid paraboloid.
- c.) The region between the graphs of the equations $f(x) = \frac{1}{2} + x^2$ and $g(x) = x$ over the interval $[0, 2]$ is revolved about the x-axis.
- d.) The region R in the first quadrant enclosed between $y = x$ and $y = x^2$ is revolved about the y-axis.

Answers:

- 1.) $\frac{8\pi}{3}$
- 2.) 8π
- 3.) $\frac{69\pi}{10}$
- 4.) $\frac{\pi}{6}$