# 7.3 Volumes - The Shell Method

Name: Date: July 9, 2015

**P 20.** Find the volume of the solid of revolution obtained by revolving the region bounded by the graphs of the equations

$$y = 4x^2,\ x = 0,\ \text{ and } y = 4$$

about the $x$-axis.

**P 22.** Find the volume of the solid of revolution obtained by revolving the region bounded by the graphs of the equations

$$y = \sqrt{x+2},\ y = x,\ \text{and } y = 0$$

about the $x$-axis.

**P 23.** Find the volume of the solid of revolution obtained by revolving the region bounded by the graphs of the equations

$$y = 2x - x^2 \text{ and } y = 0$$

about the line $x = 4$.

**P 26.** Find the volume of the solid of revolution obtained by revolving the region bounded by the graphs of the equations

$$y = \frac{1}{3}x^3 \text{ and } y = 6x - x^2$$

about the line $x = 3$.

**P 30.** Find the volume of the solid of revolution obtained by revolving the region bounded by the graphs of the equations

$$y = \frac{10}{x^2},\ y = 0,\ x = 1,\ \text{and}\ x = 5$$

about

(a) the $x$-axis

(b) the $y$-axis

(c) the line $y = 10$.