

## 8.9 Disc Method: Revolve Around $x$ or $y$ Axis

Calculus

Name: \_\_\_\_\_

**CA #2**

For each problem, sketch the area bounded by the equations and revolve it around the  $x$ -axis. Find the volume of the solid formed by this revolution. Leave your answers in terms of  $\pi$ .

1.  $y = 2x^2$ ,  $x = 2$ ,  $y = 0$

2.  $y = 4 - x$ ,  $x = 0$ ,  $y = 0$

Same instructions as above but use a calculator and round to three decimals.

3.  $y = x^3$ ,  $y = 0$ ,  $x = 3$

4.  $y = \sqrt{4 - x^2}$ ,  $y = 0$  in Quadrant I.

Same instructions as above but revolve around the  $y$ -axis now. Leave your answers in terms of  $\pi$ .

5.  $y = 2x^2$ ,  $x = 0$ ,  $y = 2$

6.  $y = 3 - \frac{1}{6}x$ ,  $x = 0$ ,  $y = 0$

$4. \int_2^0 \pi(4 - x^2) dx = 16.755\pi$	$5. \int_2^0 \pi \left(\frac{z}{x}\right) dy = \pi$	$6. \int_3^0 \pi(18 - 6y^2) dy = 324\pi$
$1. \int_2^0 \pi(4x^4) dx = \frac{5}{128}\pi$	$2. \int_4^0 \pi(4 - x^2) dx = \frac{3}{64}\pi$	$3. \int_3^0 \pi x^6 dx = 981.523\pi$

Answers to 8.9 CA #2