

Warm-up
May 10-11

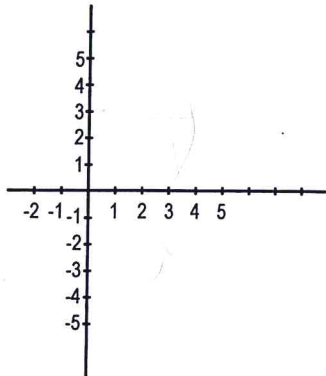
+ do p 536:7

On your own paper
(graph paper)

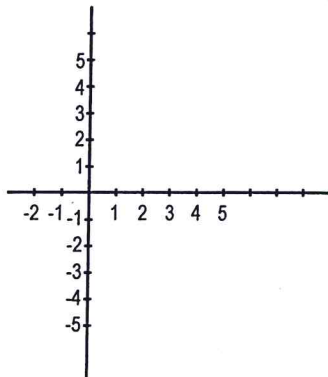
Volumes of Revolution

1. Sketch the region bounded by the lines $y = 3$, $y = 1$, $x = 1$, $x = 6$.

c)



- d) Determine the perimeter of the region.
 e) Determine the area of the region.
 f) Draw a picture of the region being revolved about the x -axis.



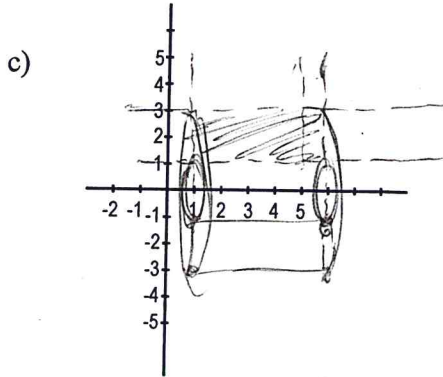
- g) Describe the geometric solid formed by revolving the region about the x -axis.
 h) Determine the volume of the geometric solid.

Later in class we did:
 p 544: 16 (no, will not overflow $10\frac{2}{3}\pi < 16\pi$)
 p 542: Example A (worked out on p 543)

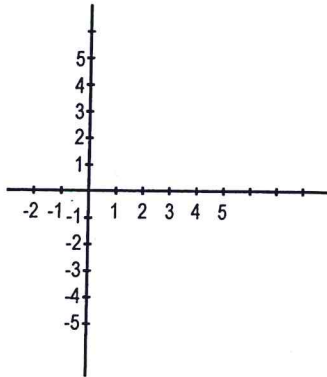
On your own paper
(graph paper)

Volumes of Revolution

1. Sketch the region bounded by the lines $y = 3, y = 1, x = 1, x = 6$.



- d) Determine the perimeter of the region. $2 + 5 + 2 + 5 = 14 \text{ units}$
- e) Determine the area of the region. $2 \cdot 5 = 10 \text{ units}^2$
- f) Draw a picture of the region being revolved about the x -axis.



above

- g) Describe the geometric solid formed by revolving the region about the x -axis. *Cylinder with a hole in it*
- h) Determine the volume of the geometric solid.

big cylinder - little cylinder

$$r = 3 \quad r = 1$$

$$H = 5 \quad H = 5$$

$$\pi r^2 H - \pi r^2 H$$

$$\pi \cdot 3^2 \cdot 5 - \pi \cdot 1^2 \cdot 5$$

$$45\pi - 5\pi = 40\pi \text{ units}^3$$