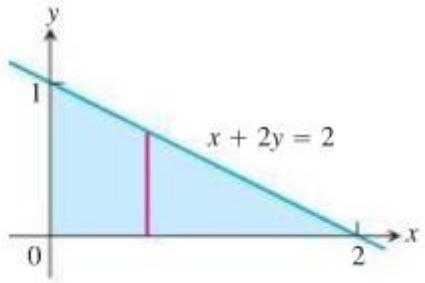
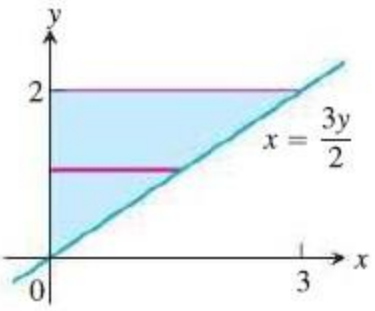
MATH 104 TUTORIAL 4

1. Find the volume of the solid generated by revolving the shaded region about the x-axis.



2. Find the volume of the solid generated by revolving the shaded region about the y-axis.



3. Find the volume of the solid generated by revolving the region bounded by the line and curve about the x-axis.

$y = x^2, \quad y = 0, \quad x = 2$

4. Find the volumes of the solids generated by revolving the regions bounded by the lines and curves about the y-axis.

a. The region enclosed by $x = \sqrt{2 \sin 2y}, \quad 0 \le y \le \pi/2, \quad x = 0$

b. $x = 2/(y + 1), \quad x = 0, \quad y = 0, \quad y = 3$

5. Use the Shell method to find the volumes of the solids generated by revolving the regions bounded by the curves and lines about y- axis.

a. $y = 2 - x^2, \quad y = x^2, \quad x = 0$

b. $y = 2x - 1, \quad y = \sqrt{x}, \quad x = 0$

6. Use the Shell method to find the volumes of the solids generated by revolving the regions bounded by the curves and lines about x- axis.

a. $x = 2y - y^2, \quad x = y$

b. $y = x, \quad y = 2x, \quad y = 2$