

Math 16B
Vogler
Worksheet 9

1.) Determine the volume of the solid formed by revolving the region bounded by the graphs of the given equations about the x -axis.

a.) $y = \cos((1/2)x)$, $y = 0$, $x = 0$, $x = \pi$

b.) $y = 3 + \sin x$, $y = 1$, $x = 0$, $x = \pi$

c.) $y = \sqrt{2} \cos x$, $y = \tan x$, $x = 0$, $x = \pi/4$

2.) Determine the volume of the solid formed by revolving the region bounded by the graphs of the given equations about the y -axis.

a.) $y = x + 1$, $y = 0$, $x = 0$

b.) $y = x^2$, $y = x^3$, $x = 0$, $x = 1$

3.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = e^x$, $y = 1$, and $x = \ln 2$ about the given axis. SET UP ONLY.

a.) x -axis

b.) y -axis

4.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = 4 - 2x$, $y = 0$, and $x = 0$ about the given axis. SET UP ONLY.

a.) x -axis

b.) y -axis

c.) line $x = 3$

d.) line $y = -2$

5.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = x^3$ and $y = 4\sqrt{2x}$ about the given axis. SET UP ONLY.

a.) x -axis

b.) y -axis

c.) line $x = -1$

d.) line $y = 8$