

Problem 1

Let R be the region bounded by $y = \sqrt{x}$, $y = 4$ and $x = 0$.

Set up an integral that gives the volume of this region rotated about

- The x -axis:

- The y -axis:

- The line $y = -1$:

- The line $y = 5$:

- The line $x = -3$:

- The line $x = 17$:

Problem 2

Use the shell method to find the volume of the region bounded by $y = \sin(x^2)$, $y = 0$, $x = 0$ and $x = \sqrt{\pi}$. rotated about the y -axis. (actually compute the area)

Problem 3

Let R be the region bounded by $y = 3x - x^2$ and the x -axis. Set up an integral that gives the volume of this region rotated about the

- The y -axis
- The line $x = 5$
- The line $x = -2$