

1. Find the volume of the solid generated by rotating region bounded by $y = 2x + 1$ and $y = 0, x = 0, x = 2$ for about the x axis.
2. Find the volume of the solid generated by rotating region bounded by $y = x^3$ and $y = x$ for $x \geq 0$ about the x axis.
3. Find the average value of $f(x) = \log(x)$ on the interval $(1, 3)$