

Math 1B Discussion Problems 19 Feb

1. Find the area of the surface obtained by rotating the curve $y = \sqrt{x}$, $\frac{3}{4} \leq x \leq \frac{15}{4}$ along the x-axis.
2. Find the area of the surface obtained by rotating the curve $y = (9x)^{1/3}$, $0 \leq x \leq 3$ along the y-axis.
3. Find the area of the surface obtained by rotating the curve $y = \frac{x^2}{4} - \frac{\ln x}{2}$, $1 \leq x \leq 2$ along the y-axis.
4. * Rotate the region $\{x, y | x > 1, 0 < y < \frac{1}{x}\}$ about the x-axis to obtain a solid.
 - (a) Find the volume of the solid.
 - (b) Find the surface area of the solid.