

Problems for Section 8.1

- (1) Find the length of $y = \ln(\sin x)$, $\pi/3 \leq x \leq \pi/2$.
- (2) Find the length of $y = 3 + 2x^{3/2}$, $0 \leq x \leq 1$.
- (3) Find the length of $y = x^3 + \frac{1}{12x}$, $1 \leq x \leq 2$.

Problems for Section 8.2

- (1) Find the area of the surface obtained by rotating $y = \sqrt{9 - x^2}$, $0 \leq x \leq 1$ about the x -axis.
- (2) Find the area of the surface obtained by rotating $y = \sqrt{x + 5}$, $0 \leq x \leq 2$ about the x -axis.
- (3) Find the area of the surface obtained by rotating $y = (x + 2)^3$, $0 \leq x \leq 1$ about the x -axis.