

1. In exercise 11 of section 7.2, you integrated $\int (\ln x)^2 dx$. Now try $\int \ln(x^2) dx$.
2. Find the volume of the solid obtained when the region bounded by $y = \cos x$, $y = 0$, $x = 0$, and $x = \frac{\pi}{2}$ is revolved about the y -axis.
3. Find the arc length of the curve $y = \ln(\cos x)$ over the interval $[0, \pi/4]$