# Calculus with Analytic Geometry II

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May 27, 2025

## 1 Arc Length Worksheet

I. Find the arc length of the curve $y = x^{3/2}$ from $(1, 1)$ to $(2, 2\sqrt{2})$.

II. Find the arc length of the graph of $(y-1)^3 = x^2$ over the interval $[0, 8]$.

III. Find the arc length of the curve $y = \ln(\cos(x))$ from $x = 0$ to $x = \pi/4$.

IV. Find the surface area of the surface of revolution formed by taking the curve $y = x^3$ over $[0, 1]$ and revolving it about the $x$-axis.

V. Find the surface area of the surface of revolution formed by taking the curve $y = x^2$ over $[1, 2]$ and revolving it about the $y$-axis.