

SECTION 2.4: ARC LENGTH OF A CURVE AND SURFACE AREA

1. Arc Length Formula

2. Use the formula above to find the arc length of $y = x^{3/2}$ from $(1, 1)$ to $(2, 2\sqrt{2})$.

3. Where does the arc length formula come from?

(a) The Mean Value Theorem

(b) The Arc Length Formula Explained

4. Surface Area Formula

5. Find the area of the surface obtained by revolving the portion of the curve $y = x^3$ from $(1, 1)$ to $(2, 8)$ about the x -axis.

6. Where does the Surface Area Formula come from?