

Quiz 8

Name: _____

Answer all questions in a clear and concise manner. Unsupported answers will receive *no credit*.

1. Which of the following integrals correctly computes the arc length of $f(x) = \sqrt[3]{x}$ between $(1, 1)$ and $(8, 2)$?

[A] $\int_1^8 \sqrt{1 + \sqrt[3]{x}} \, dx$

[B] $\int_1^8 \sqrt{1 + \sqrt[3]{x^2}} \, dx$

[C] $\int_1^8 \sqrt{1 + \frac{1}{9x^{4/3}}} \, dx$

[D] $\int_1^8 \sqrt{1 + \frac{1}{3x^{2/3}}} \, dx$

2. Write an integral expression for the surface area of the surface generated by rotating the arc above around the y -axis.