

Quiz 2

Mar. 21, 2007

1. (5 pts) Set up a definite integral for arc length of $y = x^2$, $1 \leq x \leq 2$.

A) $\int_1^2 \sqrt{1 + x^2} dx$

B) $\int_1^2 \sqrt{1 + 2x} dx,$

C) $\int_1^2 \sqrt{1 + (2x)^2} dx$

D) $\int_1^2 2\pi\sqrt{1 + 2x} dx$

2. (5 pts) Set up a definite integral for the surface area of the surface generated by revolving $y = x^2$, for $1 \leq x \leq 2$, about the x -axis.

A) $\int_1^2 2\pi x^2 \sqrt{1 + x^2} dx$

B) $\int_1^2 \pi(x^2)^2 \sqrt{1 + 2x} dx,$

C) $\int_1^2 2\pi x^2 \sqrt{1 + (2x)^2} dx$

D) $\int_1^2 2\pi x^2 \sqrt{1 + 2x} dx,$

3. (10 pts) An object is released from a height of 10m with an upward velocity of 5m/s. Let $y(t)$ be the height of the object. Identify the initial conditions $y(0)$ and $y'(0)$. Find $y(t)$.