

1. (1 pt) To find the length of the curve defined by

$$y = 6x^5 + 12x$$

from the point $(-1, -18)$ to the point $(1, 18)$, you'd have to compute

$$\int_a^b f(x)dx$$

where $a = \underline{\hspace{1cm}}$, $b = \underline{\hspace{1cm}}$, and $f(x) = \underline{\hspace{2cm}}$.

2. (1 pt) Find the length of the curve defined by

$$y = 3x^{3/2} + 7$$

from $x = 3$ to $x = 7$.

3. (1 pt) Find the length of the curve

$$x = 3y^{4/3} - \frac{3}{32}y^{2/3}, \quad 343 \leq y \leq 1728$$

$$L = \underline{\hspace{2cm}}$$

4. (1 pt) Find the length of the arc formed by

$$y = \frac{1}{8}(-0.25x^2 + 32\ln(x))$$

from $x = 2$ to $x = 8$

5. (1 pt) Find the length of the curve defined by

$$y = 4 \ln \left(\left(\frac{x}{4} \right)^2 - 1 \right)$$

from $x = 9$ to $x = 11$.