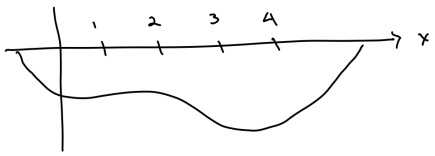
Section 5.3 The Fundamental Theorem and Interpretations (Part 1)

Interpretations

P 1. Consider the graph of $f'(x)$ below.



1. Which has a greater value $f(0)$ or $f(1)$?
2. List the following in increasing order $\frac{f(4)-f(2)}{2}, f(3)-f(2), f(4)-f(3)$.

P 2. Use the fundamental theorem of Calculus to find $\int_0^2 (3x^2+1)\,dx$.

P 3. If $f(t)$ is measured in dollars per year and t is measured in years, what are the units of $\int_a^b f(t)dt$?

P 4. Explain in words what $\int_0^6 a(t)dt$ represents where $a(t)$ is acceleration and t is time in hours.

P 5. Let $F(t) = 7\dot{4}^t$ and $a = 2$ and $b = 3$. What is $\int_a^b f(t)dt$ where $f(t) = F'(t)$?