
1. (1 pt) If $f(x) = \int_5^x t^4 dt$

then

$$f'(x) = \underline{\hspace{2cm}}$$

$$f'(-4) = \underline{\hspace{2cm}}$$

2. (1 pt) Find the derivative of the following function

$$F(x) = \int_{x^3}^{x^4} (2t - 1)^3 dt$$

using the Fundamental Theorem of Calculus.

$$F'(x) = \underline{\hspace{2cm}}$$

3. (1 pt) The value of $\int_4^9 \frac{1}{x^2} dx$ is

4. (1 pt) Evaluate the definite integral

$$\int_2^7 (10x + 9) dx$$

5. (1 pt) Evaluate the definite integral

$$\int_0^\pi 6 \sin(x) dx$$