

**Problem Definition**

Problem 3. Find the derivative of the following function at the given point.

$$f(x) = \frac{1}{3}(2x^3 - 4) \quad \left(0, -\frac{4}{3}\right)$$

**Solution Step 1:**

The current problem does not require the use of either the product or quotient rule. We only need to apply the rules of the differentiation we already know. The derivative is given by

$$f'(x) = \frac{1}{3}(6x^2 - 0) = 2x^2$$

When  $x = 0$  then  $f'(0) = 0$ .