1. (6 pts) Let \( f(x) = x^2 \) be defined on the interval \([0, 2]\).
   
   (a) Using left endpoints, express the definite integral of \( f \) from \( x = 0 \) to \( x = 2 \) as a limit.
   
   (b) Evaluate the limit in (a).

2. (4 pts) If
   
   \[
   f(x) = \int_2^{x^3+3x} (t^3 + 1)^{15} \, dt,
   \]
   
   find \( f'(0) \).
Instructions: Show Your Work!

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   (a) Using left endpoints, express the definite integral of \( f \) from \( x = 0 \) to \( x = 2 \) as a limit.
   (b) Evaluate the limit in (a).

2. (4 pts) If
   \[
   f(x) = \int_2^{x^4 - 5x} (t^3 + 1)^7 dt,
   \]
   find \( f'(0) \).