



3. (5 points) (See 5.2 # 7) Let  $f(x) = 6x^3$ . Answer the following:

(a) Using  $f(x)$ , determine a formula for the Riemann Sum  $S_n$  obtained by dividing the interval  $[0, 4]$  into  $n$  equal subintervals and using the right-hand endpoint for each  $c_k$ . (Note: Your answer should be in terms of  $n$ .)

(b) Now, compute  $\lim_{n \rightarrow \infty} S_n$  to determine the [exact] area under the curve over  $[0, 4]$ .