Assigned: 2-12-16
Let $f$ and $g$ be continuous functions on $[a, b]$. Prove that

$$\lim_{\|P\| \to 0} \sum_{n=1}^{N} f(x_n^*) g(x_{n-1}) dx(\bar{x}_{n-1}) = \lim_{\|P\| \to 0} \sum_{n=1}^{N} f(x_n^*) g(x_n^*) dx(\bar{x}_{n-1}).$$

Hint: you must use the definition of the limits here.