Exercises

E16.21 [1BR] Prerequisites:[1BP].Note:*See also Apostol [?].*

Fix $a \in \mathbb{R}$, and I open interval with $a \in I$; assuming that $f : I \to \mathbb{R}$ is if class C^{n+1}, prove **Taylor's formula with integral remainder**

$$f(x) = \sum_{k=0}^{n} \frac{f^{(k)}(a)}{k!}(x-a)^k + \frac{1}{n!}\int_a^x (x-t)^n f^{(n+1)}(t)\,\mathbb{d}t \quad .$$

Solution 1. *[1BS]*