

Lagrange Error:

$$\text{error} \leq \left| \frac{f^{(n+1)}(c)(b-a)^{n+1}}{(n+1)!} \right| \quad \text{where}$$

$$\left| f^{(n+1)}(c) \right|$$

is the maximum value of $f^{(n+1)}(x)$ on $[a,b]$.