

## Exercises

E16.3 [1C6] Let  $I \subseteq \mathbb{R}$  be an open interval. Let  $f : I \rightarrow \mathbb{R}$  be differentiable, and  $x, y \in I$  with  $x < y$ . Show that if  $f'(x) \cdot f'(y) < 0$  then  $\xi \in I$  exists with  $x < \xi < y$  such that  $f'(\xi) = 0$ .

**Solution 1.** [1C7]