

# Proof of Rolle's Theorem — in a Flowchart

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**Rolle's Theorem:** Let  $f$  be a continuous function defined on the closed interval  $[a, b]$ , and differentiable on the open interval  $(a, b)$ . Let  $f(a) = f(b)$ . Then there exists a  $c$  in  $(a, b)$  such that  $f'(c) = 0$ .

The heavy lifting in this proof is performed by the *Extreme Value Theorem*.

