Answer on Question # 41300 – Math - Real Analysis

Darboux theorem

Answer:

Let I be an open interval, $f: I \to \mathbb{R}$ a real-valued differentiable function. Then f' has the intermediate value property: If a and b are points in I with $a \leq b$, then for every k between $f'(a)$ and $f'(b)$, there exists an c in $[a, b]$ such that $f'(c) = k$.