Advanced Calculus (I)

Let $A \subseteq \mathbb{R}$ and $f : A \to \mathbb{R}$.
f is Hölder continuous with exponents α if $\exists\, K > 0$ and $0 < \alpha \leq 1$ such that $|f(x) - f(y)| \leq K\,|x - y|^{\alpha}\ \forall\, x, y \in A$.