

Aufgabe

- (a) Let (X, d) be a length space. Show: a Lipschitz path is absolutely continuous.
- (b) Let $\gamma : [a, b] \rightarrow \mathbb{R}^n$ be a differentiable path in $(\mathbb{R}^n, |\cdot|_{eucl})$. Prove that $v_\gamma(t)$ exists for all $t \in [a, b]$ and that $v_\gamma(t) = |\gamma'(t)|_{eucl}$.