



Definition:  $f: [a, b] \rightarrow \mathbb{R}$  is called absolutely continuous if

$\forall \epsilon > 0 \exists \delta > 0$  : for any finite collection of pairwise disjoint intervals

$$(x_k, \tilde{x}_k) \subseteq [a, b] \quad (k=1, \dots, m)$$

$$\text{we have: } \sum_{k=1}^m |x_k - \tilde{x}_k| < \delta \implies \sum_{k=1}^m |f(x_k) - f(\tilde{x}_k)| < \epsilon$$

