

Exercises

13.18 [15Z] Prerequisites: [15W]. Let $f : \mathbb{R} \rightarrow \mathbb{R}$ be uniformly continuous; show that

$$\limsup_{x \rightarrow \pm\infty} |f(x)|/x < \infty$$

or, equivalently, that there exists a constant C such that $|f(x)| \leq C(1 + |x|)$ for every x .

Solution 1. [160]