## Exercises

13.18 [15R] Let $f : [0, \infty) \to \mathbb{R}$ be a continuous function, show that these two clauses are equivalent.

- There exists $g : [0, \infty) \to \mathbb{R}$ uniformly continuous and such that the limit $\lim_{x\to\infty}(f(x) - g(x))$ exists and finite.
- $f$ is uniformly continuous.

**Solution 1.** *[15S]*