Opgave 1 *Given a function $f : \mathbb{R} \to \mathbb{R}$, define $f_t(x) = f(x - t)$, where $t \in \mathbb{R}$ is a parameter. Show that*

(a) one has pointwise convergence $\lim_{t\to 0} f_t \to f$ if and only if $f : \mathbb{R} \to \mathbb{R}$ is continuous.

(b) one has uniform convergence $\lim_{t\to 0} f_t \to f$ if and only if $f : \mathbb{R} \to \mathbb{R}$ is uniformly continuous.