



## Real Uniform Continuity

### 1 Why

TODO

### 2 Definition

TODO

#### 2.1 Notation

Let  $R$  denote the set of real numbers. Let  $f : R \rightarrow R$ . Then  $f$  is uniformly continuous at  $x \in R$  if

$$(\forall \varepsilon > 0)(\exists \delta > 0)(\forall x \in R)(|x - y| < \delta \implies |f(x) - f(y)| < \varepsilon)$$

