

Source: [KBhMATH401Limits](#)

## 1 | Epsilon Delta Proofs

What a limit actually is...

### Formal Definition of a Limit

Definition 1 · **Limit Definition**  $\lim_{x \rightarrow a} f(x) = L$   
for all  $\epsilon > 0$ , there exists a  $\delta$  such that *if*  $0 < |x - a| < \delta$ , *then*  $0 < |f(x) - L| < \epsilon$