Source: ⟦KBhMATH401Limits⟧

1 | Epsilon Delta Proofs

The secrets of the limit

Formal Definition of a Limit

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

An Epsilon Delta Proof

Let's prove $\lim_{x \to 2} x^2 = 4$ together!

The crux of the proof is to come up with a value δ