

Full Database Render Test

This document renders every node to ensure no runtime errors.

1. Definitions

def-seq-limit: Limit of a sequence

def-cauchy: Cauchy Sequence

def-bounded: Bounded Sequence

2. Tools (Theorems)

tool-tri-ineq: Triangle Inequality

tool-bw: Bolzano-Weierstrass Theorem

3. Examples

ex-harmonic: Harmonic Series

ex-alt-harmonic: Alternating Harmonic Series

ex-dirichlet: Dirichlet Function

4. Mistakes

err-sign: ! Sign Error

err-circular: ! Circular Reasoning

5. Questions

Rendering qn-limit-proof:

Limits

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Given:

Let $x_n = \frac{3n+1}{n-2}$.

To Prove:

Prove that $\lim(x_n) = 3$.

Hint: Use the definition of convergence.

Official Solution:

Scratch Work (Proof)

Find N such that $|x_n - 3| < \epsilon$.