🛡️ 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 of Sequences   2023 | Dr. Smith

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 $|x_n - 3| < \varepsilon$.