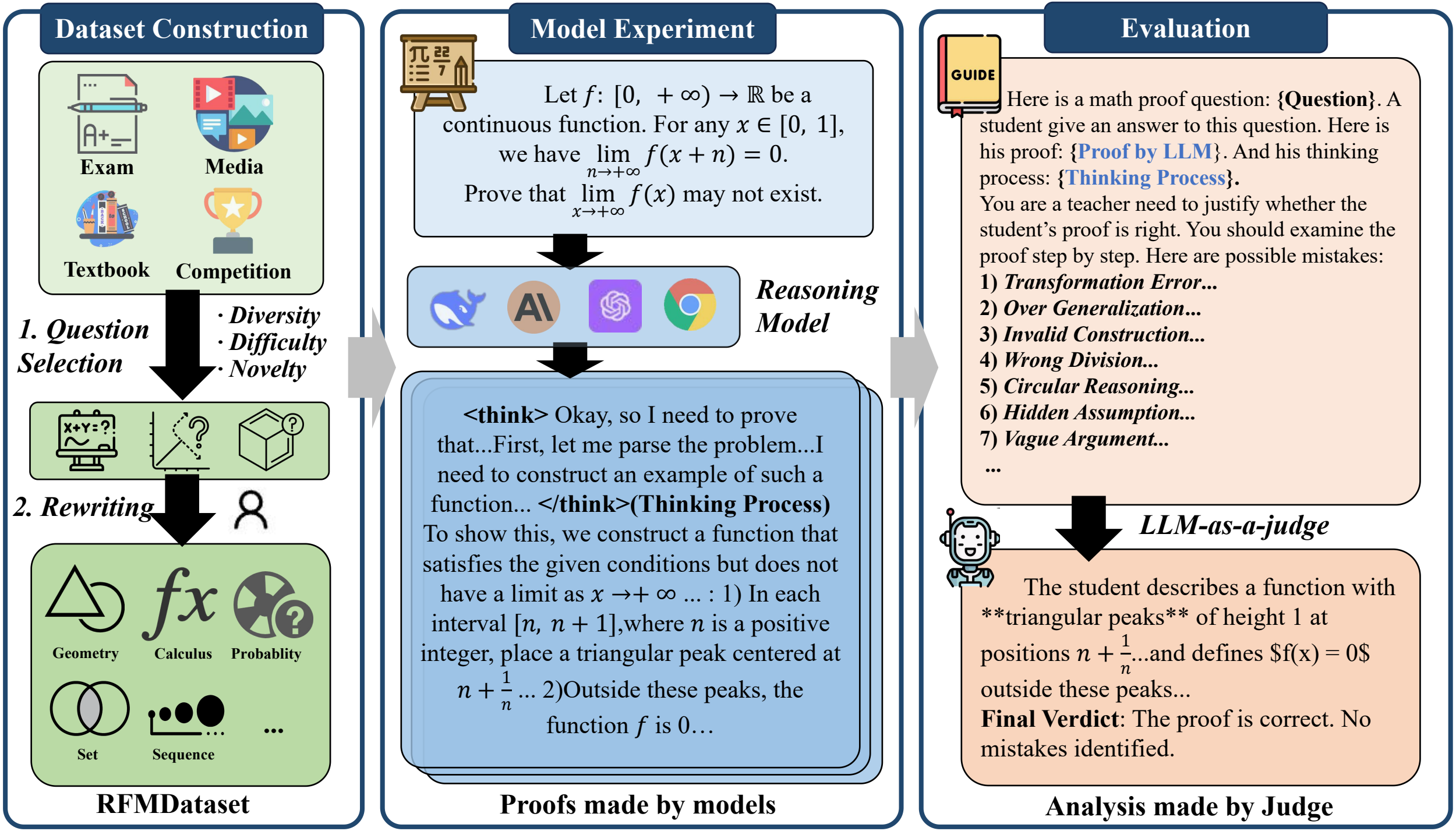
Dataset Construction
Exam
Media
Textbook
Competition
1. Question Selection
· Diversity
· Difficulty
· Novelty
2. Rewriting
Geometry
Calculus
Probablity
Set
Sequence
...
RFMDataset
Model Experiment
Let f: $[0, +\infty) \to \mathbb{R}$ be a continuous function. For any $x \in [0, 1]$, we have $\lim_{n\to+\infty} f(x+n) = 0$. Prove that $\lim_{x\to+\infty} f(x)$ may not exist.
Reasoning Model
<think> Okay, so I need to prove that...First, let me parse the problem...I need to construct an example of such a function... </think>(Thinking Process)
To show this, we construct a function that satisfies the given conditions but does not have a limit as $x \to +\infty$ ... : 1) In each interval $[n, n+1]$,where n is a positive integer, place a triangular peak centered at $n + \frac{1}{n}$ ... 2)Outside these peaks, the function f is 0…
Proofs made by models
Evaluation
GUIDE
Here is a math proof question: {Question}. A student give an answer to this question. Here is his proof: {Proof by LLM}. And his thinking process: {Thinking Process}.
You are a teacher need to justify whether the student's proof is right. You should examine the proof step by step. Here are possible mistakes:
1) Transformation Error...
2) Over Generalization...
3) Invalid Construction...
4) Wrong Division...
5) Circular Reasoning...
6) Hidden Assumption...
7) Vague Argument...
...
LLM-as-a-judge
The student describes a function with **triangular peaks** of height 1 at positions $n + \frac{1}{n}$...and defines $f(x) = 0$ outside these peaks...
Final Verdict: The proof is correct. No mistakes identified.
Analysis made by Judge