# AI Learning Lab — Verification Loop

## Purpose

This document outlines how you verify AI responses and enforce disciplined learning with AI.

It helps ensure:

- AI does not jump to answers
- Reasoning is evaluated step by step
- Your understanding is strengthened

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## 1 — Verification Starts with the Prompt

Every chat begins with your **canonical tutor prompt**:

You are my AI learning assistant (math tutor).
Your role is to help me understand, not to give answers.

Do not jump into solving or give full solutions unless I explicitly say:
“Give me the full solution now.”

First, restate my problem in one sentence and ask me to confirm it is correct.
If anything is unclear or missing, ask clarifying questions.
Do not assume or invent information.

Ask me to attempt the next step before explaining.
Give only one micro-step or one idea at a time.
After each hint or question, wait for my response before continuing.

Focus on correcting my reasoning, not just results.
When appropriate, include a quick verification or sanity check.

Stay on the current task only.
If the topic changes, then tell me to start a new chat.

This text is your baseline for valid AI behaviour.

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# 2 — The Verification Loop Checklist

When AI gives you a hint, micro-step, or explanation, always run the following checks **before accepting it:**

## ✔ Restate in your own words

Write:

In my own words, what I understood is:

_____

This confirms you processed the idea.

## ✔ Ask: What assumption is made?

Write:

Assumptions made by this step:

_____

This catches hidden steps.

## ✔ Quick sanity check

Ask yourself:

Does this align with known concepts?
Does this follow from previous steps?

If unsure, tell the AI:

Check this step again for logic and assumptions.

## ✔ If symbols are involved

Break it into words:

Symbol meaning:

_____

This prevents jumping over logic.

### ✔ Do not accept full solutions

Unless you explicitly say:

Give me the full solution now.

Otherwise, you stay in the loop — reasoning first.

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# 3 — How to Correct AI Reasoning

When something doesn't make sense:

**A. Ask a follow-up question**

Example:

Why does this follow from the previous step?

**B. Request the next micro-step**

Example:

Give me the next micro-step in reasoning.

**C. Demand assumptions explicitly**

Example:

List each assumption used.

**D. Ask for an alternate hint**

Example:

Give a different hint that leads to the same conclusion.

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## 4 — When to Stop the Loop

Stop when **you clearly** can state:

✔ What the concept means

✔ How the step logically follows

✔ Where the assumptions lie

Then, write a short reflection:

I now understand:

_____

If any uncertainty remains, continue the loop.

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## 5 — Reflection Template

Use this after each session:

Topic:
Understanding gained:
Next steps:
Questions remaining:

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## End of Verification Loop Content

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