AI in the Math Class

”It just gives the answer.”

Wrong.

It's not a calculator.

It's a Tutor.

Prompt Engineering

The art of Context.

Solve for x:

$$2x^2 - 4x - 6 = 0$$

"Solve this equation."

$X = 3, -1$

(No explanation)

Better Context

”Act as a Socratic Tutor.”

1. Role Prompting

”You are an expert examiner.”

Create a rubric for a Calculus project.

2. Few-Shot Learning

Give the AI Examples.

Q: Solve $3x = 12$. A: $x = 4$

Q: Solve $5x = 25$. A: $x = 5$

Model the logic.

3. Chain-of-Thought

”Think step-by-step.”

Force the LLM to verify intermediate steps.

Avoid the "Hallucination" of Arithmetic Errors.

”Explain the Quadratic Formula step-by-step.”

Use LaTeX output only.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

”Don’t give the answer...
guide the student.”

Empower your students.