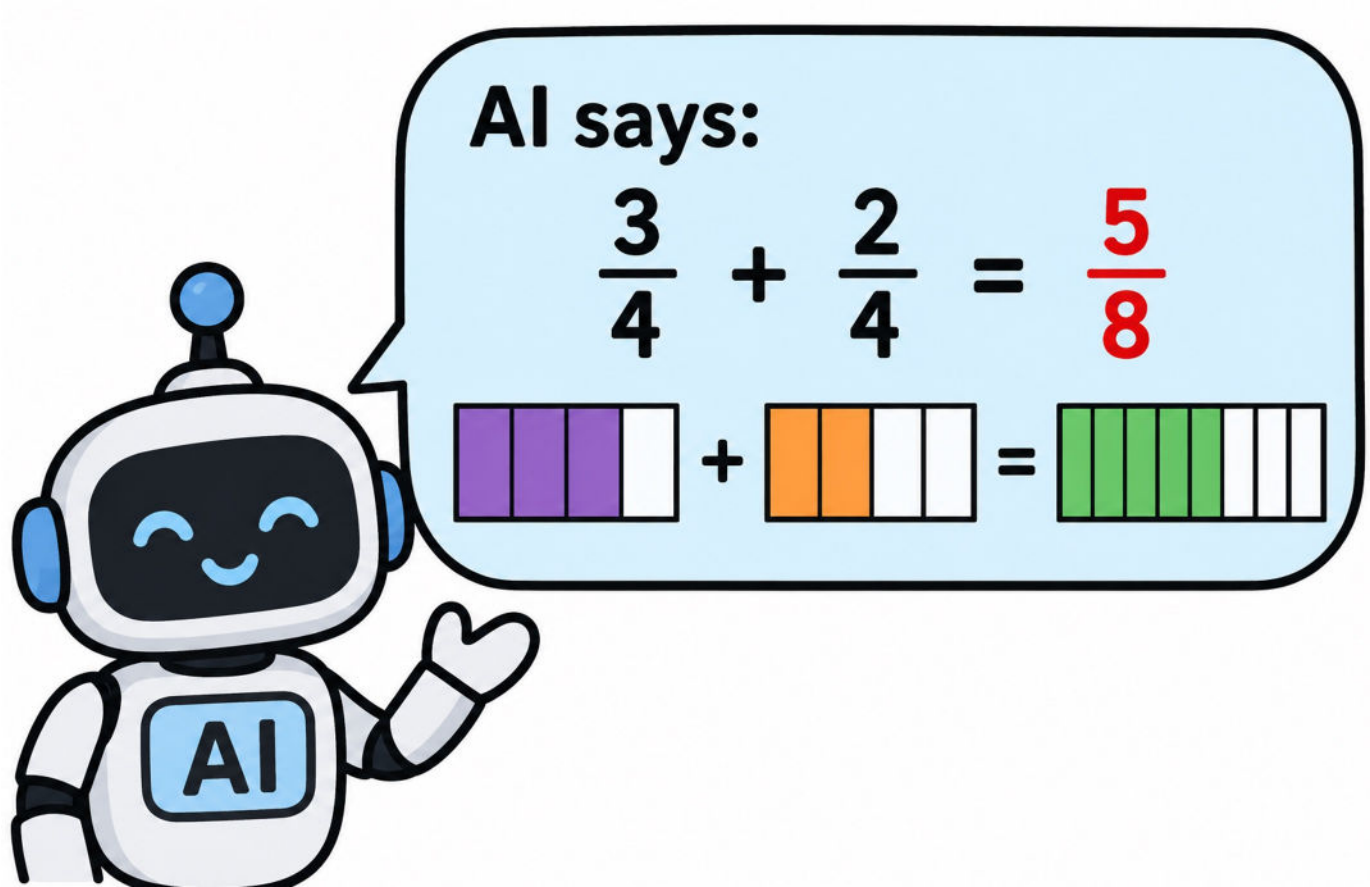
Don’t Ask AI for the Answer:

Use It to Make Mathematics Visible

Chris Kurz

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AI Error Detective: Find the Mistake



Problem of the Day

A robotics club at Rochester School for the Deaf is selling T-shirts for $12 each. They have already raised $48 from donations. How much money will they have after selling seven T-shirts?

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PEDAGOGICAL PROMPT

How many different ways could your student experience this mathematical idea?

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AI

1. A diagram
2. A table
3. A number line
4. A graph
5. An equation
6. Using objects
7. A visual sequence
8. Suggested ASL conceptual explanation
9. Simplified English
10. Academically sophisticated English
11. Misconception examples
12. Comparison questions
13. “What do you notice?” prompts
14. An assessment requiring explanation rather than calculation
15. And many more

Yellow School Bus

A short yellow school bus picked up 12 Deaf students on the way to the Michigan School for the Deaf. It took 50 minutes to travel from the first student's house to the school. If the pickup time was evenly divided among the 12 students, how many minutes did it take, on average, to pick up each student?



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AI Group Activity

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Group 1 — Visualize it Turn the concept into visual representations.	**Group 4 — Misconceptions** Ask AI to generate plausible student errors and have teachers diagnose them.
Group 2 — English Language Create versions for students with different English language levels.	**Group 5 — Questions** Turn a procedural problem into reasoning/discourse questions.
Group 3 — American Sign Language Determine what information needs to be conceptually represented in ASL rather than translated word-for-word.	**Group 6 — Student AI** Design a way students themselves could use AI without simply asking it for the answer.

"Which of these actually helps a Deaf student THINK mathematically?"

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SEE Math with AI

1 **S - Show**

Make mathematical ideas visible

2 **E - Explain**

Express the concept through multiple languages and representations

3 **E - Engage**

Make students reason, predict, question, and create

VERIFY

Is the mathematics accurate?
Is the language appropriate?
Is the representation actually accessible?

Try With Your AI Buddy

ENTER A TYPICAL PROMPT

“Explain fractions to a Deaf 7th grader.”

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What does AI think a Deaf student needs?

Questions to Think About

PERSPECTIVE SHIFT

What happens when we stop using AI simply to answer math problems and instead use it to redesign how Deaf students see, discuss, represent, and understand math?

NEW POSSIBILITIES

What does AI make possible that teachers could not easily do before?

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AI as a representation generator

Our Challenge to You - Try One Thing This Week

Take one mathematics lesson you already teach and ask AI to create:

01

visual explanation

Transform abstract math concepts into clear, intuitive diagrams and visual representations.

02

language-accessible version

Adapt lesson text for linguistic accessibility and visual structure.

03

visual differentiated activity

Generate multi-level visual tasks tailored for diverse learning needs.

04

fun hook using AI error output

Show AI error output to spark student curiosity and critical analysis.

Takeaways

01

Math AI should support the teacher.

02

Math AI should reinforce mathematical thinking.

03

Math AI should be a learning partner.

MATH AI CAN HELP US PROVIDE:

SEE IT

More ways to see it.

UNDERSTAND IT

More ways to understand it.

EXPLAIN IT

More ways to explain it.

PARTICIPATE

More ways to participate.