How to Study Math

Rules that work for any math class: Algebra, Calculus, Statistics, all of it.

Math is not something you read. You learn it by doing it, with a pencil, a little bit every day.

1. **Sit down with it every day.**
   30 to 60 minutes daily beats 4 hours the night before a test. Same time, same place, phone in another room.
2. **Understand the idea first, then practice.**
   Go over today's lesson before starting homework. What is the new idea? What problem does it solve? Write the key rule and one example in your own words.
3. **Study an example, then cover it up.**
   Read a worked example step by step. Then cover the solution and do the same problem yourself on a blank page. If you get stuck, peek at one step only.
4. **Pencil and paper. Write every step.**
   No steps in your head. Neat, step-by-step work means fewer mistakes, and when you do make one, you can find it.
5. **Struggle before you ask (the 10-minute rule).**
   When stuck, give it 10 honest minutes: check your notes, find a similar example, write down what you know and what you need. The struggle is where the learning happens. After that, ask for help.
6. **Your mistakes are your study guide.**
   Keep a mistake log: the problem, what went wrong, and the right idea. Redo those problems from scratch before every test.
7. **Quiz yourself. Do not just reread.**
   Rereading notes feels productive, but it is not. Close the book and do problems on your own, under a time limit, like it is the real test.
8. **Mix up your practice problems.**
   Don't only do 20 problems of the same kind in a row. Once you know a few topics, mix them: one from Chapter 2, then Chapter 4, then Chapter 3. On a test, the hard part is often knowing which method to use. Mixing trains that.
9. **Review old chapters every week.**
   Math builds on itself. What you learn in September shows up again in December. Every weekend, redo 3 to 5 problems from older chapters so you don't forget them.
10. **Explain it out loud.**
    If you can teach a problem to a friend, a parent, or an empty chair, you know it. If you can't, that is what to study next.
11. **Ask early.**
    Go to the teacher the same week you get confused. Bring your attempted work so they can see where it broke down.
12. **Sleep before a test.**
    Your brain locks in what you practiced while you sleep. An all-nighter costs more than it gives.

ABOUT THE AI TUTOR: USE IT LAST, NOT FIRST

Getting the answer from AI feels like learning, but your brain only learns what it does itself. On test day it is just you and a pencil, so practice that way.

- **Always try the problem on paper first.** No AI until you have an attempt written down.
- **Use it to check, not to solve.** Check a final answer, or ask about one specific step: "Why does step 3 work?"
- **Ask for a new practice problem** like the one you missed, instead of asking for the solution.
- **The real test:** can you redo the problem tomorrow on a blank page with no help? If not, you have not learned it yet.

A 45-MINUTE DAILY SESSION

5 min	Redo one or two problems from yesterday's mistakes.
10 min	Go over today's lesson. Write the main idea in your own words.
25 min	Practice problems on paper. Every step written out.
5 min	Update the mistake log. Write down questions for the teacher.

BEFORE EVERY TEST

- ☐ Started reviewing at least 5 days before
- ☐ Redid every problem in the mistake log
- ☐ Took a timed practice test with no notes
- ☐ Asked the teacher about anything still unclear
- ☐ Got a full night of sleep

Being "bad at math" is usually just not knowing how to study it yet. How you study can be learned.