

HOW TO STUDY MATHEMATICS

Many people have trouble learning mathematics because they never develop the particular study habits that are conducive to success in mathematics. If you practice the following suggestions you will develop good study skills.

1. **Choose a Good Attitude:** Decide that you are going to do your mathematics in the most successful way possible and choose a good attitude to accompany your efforts.
2. **Read Carefully and Deliberately:** Mathematics must be read slowly, absorbing each word. Each word or symbol is important because there are many thoughts condensed into a few statements.
3. **Think with Pencil and Paper:** Have pencil and scratch paper ready and use them when you read and study mathematics. Even though an example may be worked out completely in the text, work it out for yourself on scratch paper. Doing so will help to clarify the ideas and procedures in your mind before you start the exercises. If you are stuck, try to draw a picture or chart or write a sentence to try to describe the problem.
4. **Ask for Help:** Sometimes little things cause considerable confusion. Do not be afraid that your question may sound “stupid”; the only “stupid” question is the one that goes unasked. Go to the math center, get a tutor, ask a classmate, or talk with your instructor!
5. **Discuss Ideas and Concepts:** Discuss math ideas with your “study buddy”; try to form a study group with your classmates. It’s more fun and you involve more senses while you are learning and practicing. Practice the words and vocabulary of mathematics.
6. **Persevere and Take Time to Reflect:** If you do not seem to be making any progress after working on a problem for some time, take a break and come back to it later. Your subconscious often continues to work on the problem even after you have put it away. Take some time to reflect about the material you have been studying; even write a paragraph to help you summarize what you have studied and to use in your cumulative review.
7. **Concentrate on Fundamentals and Learn the Vocabulary:** All mathematics is based on a few fundamental principles and definitions. Some of these you must memorize. But then concentrate on how each new topic is just a re-application of the original fundamentals. That way you can minimize the amount you must memorize.
8. **Be Neat and Accurate:** Your notes and homework are a record for you of your progress in the course. For these notes to be useful in cumulative reviews, you must be able to read and understand what you have written.
9. **Take your Time to Do Your Work and Do It on Time:** You must do your work regularly and make up the work you miss when you are absent. If possible, read your class notes and do your homework shortly after class. In doing your homework, be aware of the reasons for the steps you go through; have a mathematical conversation by talking to yourself as you work. Think of how your instructor solved the problems and out-loud thinking he/she modeled for you. Above all, remember that mathematics is not a spectator sport! Your involvement is essential for success.

Lessons for the Math Learning Project

Adapted from J. Threadgill-Sowder, N. McKenna, A. Besserman, and D. Regan, How to Study Mathematics