

## Studying Tips

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In my experience, I have found that most students who struggle in a math class do so because they have never learned how to “study” math. You cannot study math the same way you study history. Here is a short list of my recommended study tips. Feel free to ask me (outside of class) for extra clarification, examples, or perhaps another way if you tried and these are not working for you. Remember, in the end, your success in this class will mainly be determined by how much effort you put into it.

- **Read ahead.** Read the sections of the textbook that are going to be covered in class before you come. Don't worry if you don't understand everything during this time. The idea of reading ahead is that you will retain many more important details the teacher will go over in class if you are already familiar with the main ideas. This will also allow you to solve example problems along with the teacher in class instead of mindlessly copying.
- **Ask questions.** Chances are that if you don't understand or missed something the teacher said, so did a few other students. Always feel free to ask me questions during or outside of class.
- **Read again.** After class, read the section(s) that were covered and your class notes again. By now, you have seen the material three times. You should be able to understand every step of the examples that were done in class and the ones in the book. If you do not, now is the time to ask. Now is also a good time to make flashcards or a study sheet with definitions and/or formulas that you will need to memorize.
- **Use your time wisely.** Keep the flashcards and/or study guide you made with you all the time so you can look it over while waiting for the bus or a class to start.
- **Studying means doing!** In a math class, reading will only get you so far; you must practice. Understanding what the teacher is doing and doing a new problem on your own are two completely different levels of comprehension, and you will need to master the second one to succeed in this class. Doing your graded homework is one way, but for many this may not be enough. There is a link to a list of highly suggested problems from the textbook on my website. Your book is filled with problems so there are always more available.
- **Third time is the charm.** First, try to do a problem without your book/notes. Got it? Great! That means you have mastered that concept and should be ready for the quiz or exam. Not quite? Mark it so you can come back to it later and then do it correctly three times: (1) right after you got stuck, with your book/notes (2) 3 hours later, without book/notes and (3) the next day without book/notes. This way you know it is in your long term memory and you will get it right on a quiz or exam. Cannot repeat it during step (2) or (3) without your book/notes? Start over at step (1).
- **Use study manuals correctly or not at all.** Do not just read the solution manual. This is actually detrimental because you will think you are better prepared than you actually are. Recall the “doing” principle; just because the solution makes sense does not mean you can solve the problem on your own. Use the solution manual only after you have been stuck for a while (at least five to ten minutes), and even then only read the next step. Of course, feel free to use it to check your final answer after you complete a problem. If you were stuck and used the book for a step or your answer was wrong, remember to use the “three times” principle above.
- **Keep up!** Concepts build on one another in a mathematics course. It is extremely important to always keep up with the material because if you did not learn the previous class's material, chances are you will not be able to understand the current material presented in class. Do not wait until right before the exam to ask questions.