

Tips for Success in Math

for students in grades 7-12

Below are some thoughts to keep in mind as you strive to become the best math student you can be.

- **Three Goals:** Math skills, mathematical thinking, and enthusiasm. The time you spend working on math problems will develop your math skills. Focusing in class, following the teacher's thought process, and working through challenging problems will all help to develop your mathematical thinking capacities. Perhaps it is most important to find ways to keep yourself enthusiastic about learning. After all, if you are excited about learning, then everything is more enjoyable and you will make better progress.
- **Things to Avoid.** Avoid or minimize the memorization of formulas and blindly following procedures.
- **Understand Deeply.** Good math students are never satisfied with going through a procedure without understanding what they are doing. Always question why something is true, and never be satisfied until you understand it deeply.
- **Make Lots of Mistakes.** Contrary to what many people think, mistakes are an important part of learning math. There is great value in becoming comfortable with being wrong and making mistakes. Learn from your mistakes is a critical part of becoming a good math student.
- **Organize Your Work.** You need to be able to follow your own work, but it doesn't have to be perfectly neat. In general, use the space given (on a test or in a workbook) to write down your thoughts on how to do it (perhaps a few words, an equation, or a formula). Don't do your hand calculations (fractions, multiplication, etc.) in the same place; do them on a separate scratch sheet, but be sure to label it in case you need to find a mistake later. Also, it is usually best to cross out larger mistakes rather than erasing them.
- **Short Term vs. Long Term.** Don't fall into the trap of quickly getting through assignments just to get them done, or learning things superficially for an upcoming test. Take the time to learn things deeply. This will save you time in the long run, and lead to greater success.
- **Be Present.** Be fully present in class at all times. Every minute you spend in math class is an opportunity. Before the start of each math class, tell yourself that your goal is to get as much out of class as possible.
- **Ask Questions.** Asking good questions is an important skill to develop in order to become a successful student. Find the courage to ask questions in class even if you are afraid of what others might think.
- **Keep Up.** Ask yourself every day if you understand the material. Try to clear up any confusion now, even if there is no test on the horizon. By keeping up on a day-to-day basis, you will not need to panic just before the test.
- **Follow Up.** Don't avoid your weaknesses. When you encounter something that you don't know how to do, make a note of it, and get your questions answered. When you get a problem on an assignment wrong, be sure to follow up – find out why you got it wrong, and figure out how to do it correctly.
- **Be Determined.** You learn math best when you get confused and then work through that confusion. Struggle and frustration are part of doing math. But never get discouraged; get determined!
- **Responsibility.** Take responsibility for your own learning. Find the inner motivation to do your work for yourself – not for your teachers or your parents. By the time you graduate from high school, you should be fully independent.
- **Math and Life.** You will notice that most of the above tips can be applied to other subjects and other areas in life. We learn much about life by learning math. If math (and life) were always easy, we would miss out on important opportunities for personal growth.