Math Is Not A Spectator Sport

Every individual has their own way of preparing for a math class. The reality is that most people have to study to pass their math classes, and they need to work harder in math classes than they do in any of their other classes. If you aren’t willing to be actively involved in the process of learning mathematics, both inside and outside of the classroom, then you will have trouble passing any math class.

There are some classes that you can pass by simply memorizing dates or turning in projects and presentations. You will find in math that you need to do more than just memorize a set of details. While there is a certain amount of memorization, you will need to learn how to USE these formulas (this is far different than memorizing them). As you learn the new material you will want to make sure you know how and when to use the formulas - make sure you are always clarifying this with your teacher.

Finally, remember that mathematics is cumulative. What you have learned in previous courses will play an important role in how well you can learn the material in this course. Earning a passing grade in a class doesn’t necessarily mean you understand all the material. Keep your teacher informed when you need extra assistance – yes, this does mean you will need to attend tutoring outside of class to reinforce previously learned material.

General Tips For Learning Mathematics

- **Go to class.** OK this is usually obvious, but some students forget that learning is cumulative – you need to be there daily to learn all the material.
- **Get to class on time.** Usually the most important announcements are at the beginning of the class.
- **LISTEN during class.** This is sometimes very difficult for students to do. Teachers don’t always write everything down – a lot of important material is discussed verbally. Watch for things your teacher emphasizes. The more a teacher discusses it, the more likely you will be tested on it.
- **Take good notes.** Try to write down everything the teacher puts on the board. Things will seem like they are going fast, if you are not constantly writing notes. Notetaking is not the time for you to work out every problem – they teacher is leading you. You will have time to do your own practicing. Also, work on balancing your listening and notetaking skills. If you are still having problems getting all the material, consider asking your teacher if you can record the lesson. Finally, learn the proper mathematical notation/symbols.
- **Ask good questions.** Everyone in the room is new to the material – except the teacher. Your teacher cannot guess if you are lost. Speak up and it will pay off in the end. Be specific with your questions. “I don’t get it“ will never get you the answer you need. Is it the concept, formula, a specific example, applying the formula?
- **Listen when others ask questions.** Many times you won’t have thought of their question or the teacher may cover a special example or case that you will need to know.
- **Review your notes after class.** Re-read them and mark anything that you still do not understand. When you see your teacher again, you will know exactly what to ask. Another idea is to make flashcards as you review your notes – write down formulas and hints on how and when to use the formulas.
• **Budget adequate time for doing homework.** Pick the same time daily to do your homework. It is always best to do your mathematics as close to the lesson as possible. As much as you think you are a night-owl, doing math homework after 9pm is usually a recipe for disaster.

• **Do your homework.** Teachers don't assign homework to be mean (OK so maybe some do). You may not get credit for late assignments, but ALWAYS do the work. Try to do as many homework problems as possible without your notes - it is always better to do more things from memory. Remember that it is always easier watching your teacher do the problems on the board; you will need that practice time as well. Finally, work out each homework problem as though it was your unit test - do each step of the problem, don't just scratch out a few things.

• **Practice, Practice, Practice.** This is what your teacher means by studying. Do not limit yourself to just the problems your teacher assigns. More than likely your teacher will have extra problems for you - if you ask. Also, you can always “google” a topic and get plenty of online resources.

• **Persevere.** “Rome wasn’t built overnight” and it is guaranteed that mathematics wasn’t either. It takes time for a concept to be completely understood. This means patience and determination.

• **Keep old homework, quizzes, and tests.** Never throw out free study materials! Duh!

• **Seek help if you need it.** Your teacher wants you to learn the math - their number one goal is to get you to pass. But, you must want it as well. You also must ASK for help! Teachers can be intimidating and scary, but approach them after class and be sure to have your list of questions ready to fire at them! (Bring your own work as well - a teacher can easily pinpoint your errors if they see your work.)

• **Have the proper attitude.** Always do the best that you can. Never try to do just enough to get by - this will eventually lead to disastrous results. An “A” is achievable by all students - some will need to work harder to get there than others. Finally, learn from your mistakes. Did you miss a homework assignment? Do it - even if you don’t get points. Did you fail a quiz? Take it again at home - then ask your teacher to help you grade it and see if you figured out your mistakes.

**Taking Notes In Math Class**

• **Listen in class.** Do not just write what you see on the board, but also what you hear.

• **Write down all explanations.** The explanations of a problem or concept are the key to understanding when and how to use a formula in mathematics.

• **Note important formulas/concepts.** Use a highlighter to emphasize the topics; be careful to write down exact definitions. One small error could lead to a whole problem worked out wrong.

• **Question the teacher.** No, not on their knowledge of math...but when you are confused. Ask immediately for clarification. Most students don’t ask enough questions and get so lost they give up!

• **Note topics that are confusing to you.** Note them in the margin, leave some room so when you come back to it, when you are in tutoring, you can add more to your notes.

“Success means picking yourself up one more time than you fall down!” -unknown