

Succeed On Math Tests

Poor study skills can lead to math anxiety and “going blank” during tests. In math, you have to understand concepts rather than just memorizing formulas and problems. You can't skip lectures or reading the text and jump into the problems without missing critical information. If you don't take notes, if you procrastinate, if you go straight to the problems without reviewing notes or reading the textbook, it will be difficult to understand the concepts. If you don't understand the concepts, you will probably have trouble when you are tested no matter how much time you “study”. In other classes, you can sometimes talk or write around the answer, but not in math. If you have a history of math difficulty or anxiety, it will be critical to review your study habits and see if you are skipping steps. Anxiety can be eliminated if you can understand and explain concepts to others, if you feel prepared for class and tests. People actually learn to like math when they understand what they are doing.

Test Preparation

1. Always review daily, weekly and then do a major review one week before your exam. Compose your own test, day by day, as new material is presented and concepts are emphasized. Daily study includes reworking notes, reading the book, and doing the homework. Learn important definitions, theorems and formulas on a day to day basis, not all at once before the exam. Use a study checklist, flashcards or whatever works for you.
2. When you have a specific test date, determine the scope of the test to develop your approach. Reread your syllabus or ask your professor for information: What material will be covered? How much time will be given? From past experience, do students generally run out of time or have plenty of time? Are calculators permitted? Is there partial credit for correct work or just correct answers?
3. Quickly review your notes to determine what topics or problems have been emphasized.
4. From your notes and text, make a list of major concepts and formulas. Find specific problems for each topic. Include all types of problems and of various levels of difficulty.
5. Do not expect to be able to do very difficult problems on a test if you haven't practiced ahead of time. So work out lots of problems dealing with each topic.
6. Learn to recognize your math concepts, formulas and procedures in a different order than they were presented in class or your textbook.
7. Homework problems and quizzes are good sources for the types of problems that will be on the test. Make sure you have corrected mistakes and developed competence in those areas. Good exams will have questions that assimilate several concepts and apply them to a situation that is new to you. Some students think these are trick questions but professors are testing your understanding of concepts, not your ability to memorize homework.
8. Locate additional problems or create them to make practice tests. Test yourself under conditions that are as realistic as possible (e.g., no notes, time restriction, random order, etc.). Try to predict test questions.
9. Work on a relationship with one or two other students in class. Exchange phone numbers. Form a study group or just use each other for a backup for questions, gaps in your notes, or to exchange practice tests before the exam.
10. Remember, it's not possible to study too much for a math test. Work on a regular basis throughout the term until you feel like you've understood and mastered topics; then you won't feel like you are cramming before an exam. Do NOT study up until the last minute. Get a good night's rest and eat a good meal before you go (brain food!). Learn calming and breathing techniques that will relax you. Make sure you have everything you need (pencils,

scantron, calculator, etc.), arrive in enough time to get settled in, but not early enough to talk to people. You may lose your focus or pick up on someone else's anxiety.

Test Taking

1. Glance over the whole exam quickly, assessing questions as to their level of difficulty and point value. Get a sense of how much time to spend on each question. Try to leave time at the end to check your work.
2. Write your formulas on scratch paper or the top of your test if allowed. This becomes your "cheat sheet" so you won't go blank during the test.
3. Begin working the problems which seem easiest. Make sure to give some priority to questions that are worth more points also. Skip a problem if it is taking too much time or destroying your confidence.
4. Read the entire question, recall a strategy, and begin the problem. Work quickly but carefully and legibly. Avoid critical errors with careless mistakes. Show all your work either for the professor or for yourself if you have time to recheck your work. Avoid intuitive responses, even on multiple choice tests. Math isn't about impulses but logical reasoning. Work through the problem and then look at the possible answers. Draw pictures if it helps you visualize a problem. Solve a simpler problem by changing the variables. Work backward on some multiple-choice questions by inserting answers into the problem and testing them. If wrong answers don't count against you and you don't have a clue, make educated guesses by estimation and logic.
5. Some professors will create tests that will easily take up the whole test time and allow very little time to check your work. They may give partial credit for logical thinking or take off very little for small mistakes. Other professors may have fewer problems and expect them to be all checked and correct. Maximize partial credit by showing all your work.
6. Focus on staying calm, relaxed and positive. If you start to feel anxious, sit back, take a deep breath and say, "I know I can do this." Your self-talk can either generate or eliminate anxiety, so make sure you are saying positive things to yourself.
7. Take the entire test period to finish and don't get spooked by students leaving early. Professors frequently report that those students do poorly on exams.
8. After finishing your exam, check your answers, proofread for careless mistakes, turn it in and reward yourself on a job well done.

Test Analysis

Analyzing returned tests can help studying for future tests. Ask yourself the following questions:

- Did most of the test come from the lecture, textbook or homework?
- How were the problems different from those in my notes, text, and homework?
- What caused most of my errors (carelessness, lack of time, misreading questions, lack of understanding material or which method to choose, not enough practice, test anxiety, etc.)?
- How can I change my study habits to adjust for the errors I am making?

REMEMBER: The knowledge of most math and science courses is cumulative. Mistakes are part of the learning process to begin to learn concepts. Don't be embarrassed or afraid to ask questions. Learning in math is a spiral process with many concepts building on others. Poor understanding of a concept may cause many future problems. Rework problems that you missed and check with your professor or a tutor if it's not clear. Seek help early if you have difficulty.