

PASSING YOUR NEXT MATH EXAM

“I understand the problems when I work on the homework [or when the teacher does them in class], but then I can’t do it on the test.” Have you ever said this? You are not alone. Math students everywhere mention this same problem over and over again.

Some people are naturally better at math or are naturally better test takers than others, but it is important to know that *becoming a good test taker, and a good college student in general*, is a **skill that you can learn**. Like any skill, it takes practice and dedication. Here are some ideas that may help you in this process:

BEFORE THE TEST

- **Start studying early.** Do not wait to “cram” the night before, and certainly don’t wait until the day of the test! Instructors and tutors are available to help you, but they cannot cram a large amount of knowledge into your brain in a small amount of time. Start several days ahead of time. This takes discipline, but part of the college experience is about learning discipline. If you are overwhelmed by the volume of material (e.g., for a cumulative final exam), break the material into sections and actually write down a plan to study certain sections each day.
- ***Strive to understand the concepts*** – the “how it works” and **why** the problems are solved the way they are – don’t just try to memorize all the “how-to” steps like a robot. When you are under time/grade pressure, this type of memorization goes away! If you *truly understand* the problems, that understanding will not go away. Working at understanding may take more time and effort at first, but it is well worth it in the long run.
- **Drill those problems.** Even if you feel you have already conquered a particular type of problem, practice some more of them anyway. Understanding the concepts is crucial, but repeated practice is what makes it “stick in your brain”. This helps to reduce the chances that you will “blank out” on a problem, especially if you feel anxiety when taking a timed test. Do you have trouble memorizing formulas? *You should be working so many problems that you automatically remember the formulas after awhile without trying.*
- **Practice, practice!** In math, you are both understanding new concepts and learning new skills. Just like playing a sport or learning to play the guitar – how can you expect to get good at a skill if you don’t practice it regularly? Can you get good at soccer by just watching other people play soccer? No, you have to practice it yourself! If **time anxiety** is your particular weakness, then practice doing math problems in a timed setting (after developing the understanding, of course). Practice tests and practice sheets are usually available from your instructor or online homework system, and at the Math Lab as well. Take 10 or so problems at a time and designate a time limit (such as 20 minutes), and force yourself to work through all of them before going back and checking the answers. **Doing math problems in a timed setting is a skill you can practice**, and you should if you have test anxiety.

DURING THE TEST

- Look over the entire test first, to get a sense of how long it is. It may be helpful to start with the problems you definitely know you can do first. This helps to build your confidence level, plus you won’t lose out on those sure points if you do run out of time. Then work on problems you are less sure about but think you can figure out. Then, finally work on the problems you are least sure about.
- This may sound obvious, but **always read instructions carefully**. Students lose countless points by not following directions or not completely finishing a problem as it was asked.

- Hopefully you memorized any necessary formulas while practicing for the test. But if you still have a hard time with them, go ahead and **write the formulas down** in an extra space or on the back of the test, so that you can refer to them when you need them instead of using up your brain's energy trying to remember them in the middle of the test. [By all means, do not smuggle them in on a cheat sheet if one is not allowed – cheating is a severe offense and is never worth it!].
- **Time is usually a factor.** Work *quickly and continuously*, yet not so fast that you make careless errors. How can you find such a balance? This is where *practicing before the exam* comes in. **If you do “blank out” or get stuck on a problem**, do not consume too much time on it if you are not making progress. **Put a pencil mark next to it and move on, and come back to it later if you have time left.** Why? Two reasons: 1) You want to use the majority of your valuable test time on problems where you can get the maximum points possible. 2) If you spend too much time sitting idle while stuck on a problem, you may start to feel discouraged and go on a downward spiral with negative thoughts and mental blocks. An exam is your opportunity to showcase what you have learned, so take advantage and do that!
- **Show all of your work**, and make it as easy as possible for the instructor to read and follow your thoughts. Again, an exam is your chance to show off what you do know. If the final answer is incorrect, many instructors will still give partial credit if you have shown some correct steps or correct reasoning. [If you have no clue about a problem, do not write a bunch of nonsense hoping to get some partial credit – your instructor is smart enough to know the difference... doing so may annoy him or her. But if you feel you have some grasp of a problem and can write down some *correct* reasoning, by all means write it down!]
- **Never waste time erasing.** Draw a line through any work that you want ignored, and make your final answers easy to find if they are not in an answer space (for example, draw a box or circle around them). Not only does erasing waste time, but many students find out later that they accidentally erased something useful!
- If you cannot do the first part of a **multi-part problem**, **don't necessarily give up** right away. You may still be able to do some of the later parts. Always check!
- If you are stuck on how to begin a word problem or other type of problem that may include a visual, see if **drawing a picture/diagram** or **writing down an outline** may help you focus your thoughts and get you started. Identify and write down the **necessary** data, and possibly throw out any unnecessary information. For example, “12 students have been taking an exam for 25 minutes, and they have used up one third of their time. How much test time do they have?” The “12” was unnecessary there! Yes, it is fair for your instructor to insert unnecessary information like that – the point of a *test* is to test your knowledge and skills, and identifying necessary data is one of those skills.
- **Don't leave early**, even if you have finished all of the problems. There is no prize for finishing first. Isn't it worth a few extra minutes of your life, to get a good grade that lasts forever? Do not be fazed if other students leave early – ignore them. Many “A” students are the ones who turn their tests in last.

If you haven't finished, don't give up early. If you have finished, **double check** your finished problems. If you solved an equation and have an answer such as “ $x = 4$ ”, plug it back in and check that it works! If you solved a word problem, at least do a common sense check and see if your answer is reasonable. If a problem asks you to find the amount after tax and tip for a \$40.00 meal and your answer is \$478.00, is that reasonable? No! Perhaps there was a decimal placement error... etc. You can catch a lot of mistakes simply by doing “common sense” checks, but many students don't bother.

- If your instructor allows it, always turn in your scratch paper by stapling it to your exam.

AFTER THE TEST: If you get your test back, don't throw it away! Assess what you got wrong and why you got it wrong, and use that as a learning tool. Hang on to it and re-work all of the problems later when you are studying for the final exam.