SSC
Lewis and Clark Community College
Student Success Center

Steps to 

How to be a Good Math Student

LEWIS&CLARK COMMUNITY COLLEGE
Empowering People
5800 Godfrey Road
Godfrey, IL 62035-2466
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The mission of the Student Success Center (SSC) is to support the college's learning environment and promote student success through graduation and beyond. Your future is our vision. We have a variety of student services and open computer labs to help you reach your goals.

Various locations are open throughout the campus, and SSC Specialists and/or peer tutors are available to support students in different disciplines, including:

- Math
- Writing
- Reading
- Study skills
- Speech

Students are seen by appointment or on a first-come, first-served, walk-in basis, depending upon tutor availability.

Please call (618) 468-4SSC (4772) or visit www.lc.edu/ssc for locations and availability.

*Brochure adapted from St. Charles Community College's ACE Center brochure and *Understanding Intermediate Algebra*, 3rd ed., by Lewis Hirsch and Arthur Goodman (St. Paul, MN: West Publishing Co, 1994)

How to be a Good Math Student

Steps for Studying Algebra

1. **Read the Material Before Class**
    - Before attending class, actually look at your textbook. Previewing the material is essential to understanding what the instructor is teaching.
    - Find the sections that are to be covered for class that day via your syllabus. First, skim the sections by looking at headings, bolded words, formulas, and examples. This will allow you to have a preliminary idea of what the lesson is about.
    - Next, read the material carefully. By reading the material before it is taught, you will find that the lesson seems less foreign and is easily understandable. By reading the material in advance, you can come to class prepared with questions you didn't understand when on your own so that you may have the answers before you work on the assigned homework.

2. **Attending Class**
    - Show up to class, and be on time. Reading a fellow student's notes is much harder than reading your own. Also, don't sit idly by; be an active member of the classroom with questions and interactions.
    - Be aware of:
        - Your instructor's name, office hours, and office room number
        - Details in the syllabus including point values, grading system, calendar, and testing procedures

3. **Taking Notes in Math Courses**
    - Do not simply copy what is on the board; write the explanation of the problem down as well (if there is no time to write an explanation, leave blank spaces and fill it in after class). Be sure to note what problem number it is and the page number if the instructor got the problem from the textbook.
    - Give yourself plenty of room for numbers, symbols, and formulas so they do not cram together. Make numbers and letters clear, legible, and unique so you do not confuse them (Example: if the problem uses a "t" and a "+" put a tail on the "t" or make it a capital letter).
    - Highlight key terms, formulas, and main ideas and make flash cards for study purposes.
    - Draw pictures, diagrams, and charts for clearer idea of the section or topic.
    - Keep your notes organized by putting the date at the top and using headings.

4. **Studying and Homework**
    - The ideal study time is between two to four hours outside of class for every one hour inside class. However, do not cram your study time into only a few days of the week

while taking the other days off from studying. It is better to do a little each day of the week so that you do not feel overwhelmed and so you are consistently practicing the problems, making you more prepared for your test. Also, take a ten minute break after each hour of studying if your study session for one day is longer than an hour.

- Before you attempt your problems on the homework, review your notes. This is where the explanation portion of your notes really helps. You are more likely to understand the concepts and less likely to confuse steps when you understand why the step is there in the first place. When looking at your homework problems, ask yourself how these concepts relate back to the examples in your notes.
- Take your time with your problems while doing the homework. After all, this is *practice* for your test. Speed and accuracy will come after practice. Take time to think about what you are doing and why you are using a certain formula or approach to a problem versus another approach. This will make you less likely to use the wrong formula or approach later on. Only after understanding what you're doing and why you're doing it, can work on speed.

5. **Reading Directions**
    - An often overlooked, but extremely important, aspect of doing algebra problems is reading the directions. Often times the directions are short such as "simplify" or "solve." Be sure to understand what these terms mean. The direction "identify" versus "simplify" have two very different meanings, so make sure you know what is being asked before starting the problem.

6. **"Getting Stuck"**
    - It is a frustrating experience to be "stuck" on a problem. Sometimes being stuck means you are unsure of where to begin or you are halfway through the problem and not sure what to do next. Maybe the book's answer and your answer do not match. In the last scenario, make sure you copied the problem correctly, and reread the directions carefully.
    - After reviewing all the relevant information for the section or chapter beforehand, take another look at the problem. See if any of the problems match the examples in your notes so that you can perform the correct steps (see point 4). If there are no matching problems in your notes, check your textbook examples.
    - If you notice you are having difficulty with the same types of problems, you may have missed something in your notes. Reread the material in the textbook and try again. If this fails, try moving on to another problem or taking a small break to refresh your mind and come back to that problem later. If after multiple attempts you still cannot figure out the problem, bring your attempts to the Math Resource Center (MRC) so that the tutors can see what you tried.

7. **Reviewing**
    - Going back and reviewing previous chapters will help you understand the current chapter's material. Algebra expands on itself meaning that you have to understand the previous concepts to be successful in understanding the current concepts. When doing

problems, try to incorporate problems from previous chapters to keep the "old stuff" fresh in your mind.

8. **Checking Your Work**
    - One of the easiest things to do is getting into the habit of checking your answers in the back of the book or through the online resources that automatically tell you if your answer is correct or not. However, those resources will not be available to you when you are taking a test. Get into a new habit of checking over your own work. Make sure you didn't miss a negative sign or write a number down wrong. You can even try working the problem a second time if you feel unsure. Ideally, the checking step will take less time than actually solving the problems, though sometimes this is not always the case.

9. **Making Flash Cards**
    - A great tool for studying is flash cards. Getting an index card for study purposes can significantly help your studying process. By writing formulas, terms, and key concepts on the cards, you can quickly and efficiently study your chapter.
    - There are two types of flash cards that you can make: a definition/principle card and a warning card.
        - A definition/principle card has a single definition, rule, or concept on one side of the card with the name of the principle on the other side.
        - A warning card is a card to alert you of errors you frequently are making on a certain problem. One side of the card should be labelled "WARNING" while the other side should have the correct way to do the problem and the common error that is being performed.
        - When studying with your flash cards, make two piles: one pile is the cards you got correct while the other is the cards you got incorrect. Shuffle the cards so that you do not memorize the order.

How to Study for a Math Exam

1. **When to Study**
    - Studying for an exam should come much earlier than the night before. Start studying as early as two weeks before the exam and distribute your sessions over a span of time. Instead of sitting for long periods of time studying, break up your sessions into about two hours over multiple days. Make sure to be taking those ten minute breaks for every hour of studying as well.

2. **How to Study**
    - Your study sessions should include: a review of your notes and textbooks, practice problems, flash cards, and reflecting on the material or exercises.
    - Memorizing problems and solutions are **not** an effective strategy to studying for an exam. If you realize that you do well on quizzes but poorly on exams, interference of memorized procedures may be your issue. Instead, concentrate on *what* and *why* the

method is being used for a particular problem. If you understand the concept, you will then be able to recognize it on an exam and find the solution.

- After understanding the concepts, focus on developing your solution skills so that you do not make careless mistakes on the problem during the exam.

3. **Reviewing Notes and Textbook**
    - Reading notes or the textbook during your study sessions is crucial as it reinforces your knowledge of math concepts.
    - Review old homework problems and quizzes as well, going over what you missed and why you missed it.

4. **Sample Exams**
    - Many chapters have review exams included. If so, take advantage of that resource. If for some reason your chapter does not have a review exam, make one for yourself using problems from your notes or textbook. You can use problems from previous homework assignments, quizzes, or tests as well as new problems that were not assigned that appear in your textbook. (Note: it is best to find problems that you have the correct answers to so that you can check your work and grade yourself).
    - Find a quiet place to take your practice exam and set a timer so that you mimic your actual exam time limit.
    - After you complete your practice exam, grade yourself and see how many problems you missed. Also, be sure to pay attention to the types of problems you missed to see if there is a pattern.
    - If you do not finish the entire practice exam in the time limit, speed is something you need to work on. Think about how you took your practice exam. Did you do the easier problems first or the harder ones? Try redoing the practice exam using different strategies so that you become quicker, but remember not to sacrifice accuracy.

5. **Taking the Real Exam**
    - Make sure you get a good night's rest before the exam. Do not stay up all night studying as this can be counterproductive.
    - Give yourself plenty of time to get to the exam and attend class a little earlier so you are prepared. Listen to your instructor's instructions about the exam carefully.
    - As soon you are permitted to begin, write down any relevant information about the exam that you can such as formulas or key words/concepts. Refer back to your exam notes, if permitted, when you need to.
    - Exams vary in how they are formatted and not all of them start with the easiest problems and end with the hardest. Look over the exam before you actually begin it. Start with the problems you have the most proficiency in and then go back and work the other problems. Refer to your notes that you jotted down before beginning to see if anything will help you as you are working these problems. Spend less time on simpler problems or problems worth fewer points.

- As you work the problems, make sure you are aware of the time and how much time you have left. Remember to relax while taking your exam so as not to induce test anxiety. If you feel nervous, just take a calming breath and continue your exam.
- Check your work when you are finished. To do this, reread the directions to make sure you did the problem correctly, then check over the worked out problems for errors. If you still have plenty of time left and have already checked over your work, do it again.

6. **Reviewing Your Exam After It's Graded**
    - Once your exam is handed back to you, don't just file it away and never look at it again. Your exam is a useful study tool and a great way to see what your strengths and weaknesses are in a subject.
    - Look over what you did correctly as well as what you did incorrectly. Do not assume that all your errors were minor or careless mistakes. Ask yourself questions about the problem, such as "Did I understand the directions?"
    - See if there is a consistency with the types of problems you missed. This will help you in the future (remember, math builds on itself).
    - Try reworking your exam on a clean sheet of paper after reviewing and studying it. Check to see if the problems you previously got incorrect are resolved. If you answer the problems correctly, double check your understanding by finding similar problems in the textbook or homework. If you get the new problems incorrect, maybe you are still unsure of the concept.
    - If you feel as though you need help with a concept or approach, seek help from your instructor, textbook, or the Math Resource Center.