See this page in the course material.

Learning Objectives

- Compare effective note-taking strategies for quantitative courses against those for other courses

In gradeschool, you may have had a teacher who praised students for having neat, tidy papers. Learning can be messy, and if we restrict ourselves to neat, tidy papers, that is all we will have. Sometimes we need to try a homework problem over and over before we understand how to find a solution. In our hectic lives, it is important for us to allow ourselves time to reflect on the messy parts so we can tidy them up in our minds.

Preparation

Prepare for your classes as you would practice for an upcoming athletic event. Know the topics you are going to cover, and make a goal of being current with your assignments. Learning is not passive, so if you want to learn from your class time, you must prepare yourself to learn.

Consider these two scenarios:

Scenario 1

Greta is busy. She has a job and works at night after spending hours at school every day. The last thing she wants to do is prepare for class when she gets home from work at night. Despite her exhaustion, she takes 15-20 minutes before bed to check the syllabus from her math class to see what topic will be covered in lecture the next day. She then finds the text material related to the lecture topic and quickly skims it, reading over the headings.

Scenario 2

Greta is busy. She has a job and works at night after spending hours at school every day. The last thing she wants to do is prepare for class when she gets home from work at night. She decides to watch an episode of her favorite TV show before she goes to sleep at night.

How much value do you think Greta is gaining from her math lectures in each of these scenarios? Do you think 15–20 minutes really makes a difference? If you haven't before, try spending 15–20 minutes skimming the material related to your lecture before you go—even if you just read the headings in your text. Maybe you take public transportation to campus. If so, you could skim your text or lecture notes on the bus. If you drive, maybe you can get to campus a few minutes early to do the same thing.

Preparing for class doesn't necessarily mean having read all the material related to that day's lecture. Some people gain more from reading after lecture. In general, most people do retain more from lectures if they focus their mind on the topic of the class before entering the class. Ask yourself these questions before your lecture: what did we talk about last time? What are we going to talk about this time? Am I current with my assignments?

Math concepts build on each other. Because of this, keeping up with homework and assignments will help you be prepared for the next session. If you are behind, you will lose a valuable opportunity to make important connections between last week's content and this week's.

Taking Notes

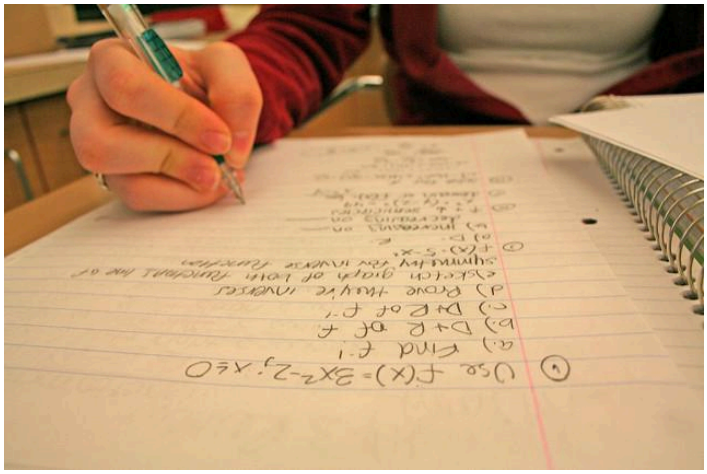
It is impossible to write down everything your teacher says during a lecture. As you become a more skilled learner, you will learn how to glean what is important from a lecture. Here are some things that can help you organize your notes and your understanding of the content in them.

Consider these things before you start writing:

- Where are you going to keep your notes? 3 ring binder, folder, spiral notebook? Taking notes with a computer in your math class may prove difficult when you need to draw a graph or geometric object.
- How are you going to organize your notes on the page?
- What purpose do your notes serve?
- How do you plan to use your notes?

Organizing Your Math Notes

Before and During Class



As with any kind of class, you may need some time to figure out how to best organize the information you want to record. There are many popular styles of note-taking and if you have one you prefer, there is no reason to change. If you want to explore more ideas that have worked well for other students in math courses, consider these:

- Split your page into two columns, one for descriptions/ definitions and one for examples
- Cornell notes—good old "C Notes"—can be helpful, but require some deeper thinking than you may be able to do on the fly during a lecture. Consider saving C notes for use while reading your textbook, instead.
- If you don't understand something, write it down anyway and mark clearly that you have a question about it. If you don't have time in class to ask about it, get help with it later. Writing down what you don't understand may be the most important part of taking notes!

Homework Journal

There's a good chance you are going to be assigned online homework in at least one of your math or science classes while you are in college. Often, students fall into the habit of working through online homework without keeping track of their work. If there's one thing you take from this page, it should be this: **Keep an online homework journal**!

Here are some important things to include in your homework journal:

- The title of the homework set—even if it is just the number, such as 2.3. This will help you use your work as a reference for study.
- Write down each problem you do—if there are easy ones, just write the answers to them if you don't think you will forget the steps.
- If you make a mistake—just circle it and note that it was wrong. If it takes a ton of tries, that's okay—it's your homework journal, and you're not turning it in for a grade.

Allowing yourself to make mistakes in your homework journal gives you freedom to learn and not be worrying about a perfect paper.

Summarizing/ Reviewing

Summarizing and reviewing what you have done will help to solidify the ideas that are now swirling around in your head. You go to lecture, take a bunch of notes, do a ton of homework problems, and then what? Your brain needs time to make connections between practice, what you have in your notes, and what you may have read in the text.

After Class / Homework

What's the point of taking notes or doing homework if you never look at them again?

- The sooner you can get your questions answered the better you will understand the answers. Remember those questions you circled in your lecture notes? Make sure you resolve them as quickly as you can.
- Compare your class notes to the assigned reading—maybe you can reorganize your thoughts, or answer one of your own questions.
- As you do your homework, keep your notes open. Ask yourself, "is this question like an example from class?"
- After you do your homework, try to place the practice problems into the corresponding readings in your text—what are the key terms or definitions related to those problems?

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