

Math 8 Study Tips

Things to do before class

- Read the section that is going to be covered.
- Write down questions.
- Review last class material.

Things to do in class

- Arrive on time.
- Do not carry on conversations during class.
- Be interactive. i.e. answer and ask questions.
- Make sure to ask any questions that remain from your reading.
- Take thorough notes.

Things to do after class

- Talk to your classmates. If other people ask you for explanations, see how well you can do explaining things to them. You will figure out what you don't know very quickly when you teach.
- Try worksheet.
- If you have trouble with the worksheet, redo examples from class. covering the solution. Use your notes to guide you when stuck.
- For additional examples, work examples in the text in the same format.
- For additional problems, try odd problems in the text. The answers are in the back. Note: you are welcome to ask about these problems during office hours or if we have time during class.
- Utilize all your resources: office hours, appointments, tutorials.
- If you have trouble with some concept, work on that as soon as possible, and ideally by the next class. That way, you won't be completely lost in the next class.

It should be noted that between lecture, the text and the worksheets, you have approximately 12 worked examples for each section.

How to learn new mathematics

There are many ways to learn new mathematical concepts, and different ways can be more or less effective for different people. But here are some possibilities that might work for you:

- Whenever you encounter a new definition, theorem, statement, or problem-solving technique, try to probe at it a little. See how it fits in with other concepts you are already comfortable with. Don't try to understand new things in full generality immediately. Instead, take an example and see very carefully how it applies to that example. Once you have done that, then generalize.
- Approach everything you learn with a certain amount of contempt. If possible, try to figure out why every new thing you learn is actually obvious, and how you could have figured it out on your own. (Occasionally, this will not be possible, but in general it will be.)
- Memorize as little as possible. Instead, understand where things come from. When you are under pressure (for example, on an exam), you are likely to forget things you have memorized. You will never forget things you understand.
- Write a story: how does one idea lead naturally to the next? How do the characters (mathematical objects) develop as you learn more about them, from when you were very

young just starting your mathematical career, to now? What new powers or functionality do they gain?

How to prepare for exams

- Redo all the problems you have seen. This includes in class examples, worksheets, homework and webwork.
- Utilize end of the chapter questions in text. Odd answers are in the back of the text.
- Utilize practice webwork accounts: practice0 — practice9 (There is no password for these accounts.)
- Start preparing early. It takes a long time to absorb mathematics.
- Build your own test. What would you ask?