MATH 5a: Precalculus

Some Starter Tips For Reading Math

As you know, we expect you to read the textbook before class. Reading math is different from reading in other subjects, and it is a skill you can learn. You will have to experiment a bit and see what works best for you, but here are a few starter tips for reading math:

• **Expect it to take some time.**
  In a history or literature course, you might be assigned to read 50 or 100 pages. In math, the reading assignments are usually an order of magnitude smaller in size, i.e., you are more likely to be assigned 5 or 10 pages to read. That doesn’t mean it should take any less time. You may have to read it several times over to even begin to understand and, if you follow the tips below, reading through even once should take a while.

• **Have pencil and paper out and ready when you are reading.**
  Reading math should be a very *active* activity. You should not be passively letting the words flow by. Instead, you should always be:
  1. trying examples that are in the book (preferably before the book shows you how to do them, or else trying something similar afterward); and
  2. trying to figure out how they got from one step to another any time they seem to skip a step.

• **Take notes!**
  In addition to trying examples, you should be taking notes.
  As you read, you should be writing up two categories of notes:
  1. Take notes like you ordinarily would during a lecture: **write down important definitions, formulas and examples.**
     Writing out the definitions and formulas on your own helps to put the information through your head in a way that reading alone (i.e., without any writing) won’t do as effectively. Finally, trying to discern for yourself which definitions, formulas, techniques and results are most important (and why) will help you gain a deeper understanding of the material.
  2. Take notes on any **questions** you have while reading.
     Make a note of anything you don’t understand or any questions you have. You should come back to these after class to see if you understand later. If not, you should come to office hours or evening help.

You can integrate these two categories of notes if you want, or keep them separate. Multiple colors might help you stay organized.

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• **Use an example to help understand a formula or definition.**
  Try lining the examples up with the formulas to see how they compare. Try making your own examples!

• **Check out other sources.**
  Comparing multiple sources and presentations can often lead to a deeper understanding. Here are a couple of free resources that might help you:

  – Paul’s Online Math Notes
    [http://tutorial.math.lamar.edu/Classes/Alg/Alg.aspx](http://tutorial.math.lamar.edu/Classes/Alg/Alg.aspx)
    This is basically a free online textbook. It’s not the prettiest website ever, but many students find the writing to be more conversational and easier to understand. He also provides lots of examples with solutions.

  – Khan Academy
    [https://www.khanacademy.org/math/](https://www.khanacademy.org/math/)
    Start with the “Algebra Basics” section.
    These are a series of videos, sometimes supplemented by online problems. Some students learn better from an audio/visual presentation than from the textbook. Learning from the textbook is an important skill, though, so if you use these, we recommend reading first, then watching videos and then reading again. This way, if things make more sense in the video, you can try to figure out how you could have gotten that information from the book.

• **Pay attention and share tips.**
  Try to pay attention to what’s working for you and what isn’t, so you can get better at it. If you find something that is working for you, share it with me, so I can share it with the class so we can all improve.

We don’t expect you to understand everything you read, and you probably shouldn’t spend forever on it, so if you don’t understand something, make a note of it, look for it in class, review again after class to see if you understand then, and go to office hours if you still don’t get it.