

## 1 WEEK 1, 8/25/23

**Reading:** Ch 1, 2, and Part I introduction

**Assignment 1.1.** Consider the math class you are taking this semester: create a tree for this course. Use the Table of Contents, the intro paragraphs for each chapter, section headings and intros within sections ... invest 30-90 minutes of concentrated effort on this assignment. Collaboration is permitted/encouraged, but you must draft your own tree (so you're free to talk about ideas and then go your separate ways and write your own tree).

**Assignment 1.2.** Pick the most confusing homework problem from this week that you think you might have solved correctly. Argue in English why your solution process is aligned with "truth." Bulleted formatting is fine; complete sentences are not required.

**Assignment 1.3.** Apply mathematical, biblical thinking to your life: Pick a decision you made (not something academic, trivial, or deterministic) or a response that you had to a personal/interpersonal situation. State/comment on the relevant truth. Articulate how your decision/response aligned or did not align with the truths. The goal is not showing that you're perfect (remember we learn from our mistakes, not our successes), but to show that we are applying good mathematical, biblically sound thinking to our lives.

**2 WEEK 2, 9/1/23**

**Reading:** Read Chapter 3 (read to change the way you act NOT to say you read it).

**Assignment 2.4.** *Speak to an upperclassman (math or actuarial major or math ed if you are an ed major) and ask what they wished they had done differently or what they did that was critical and valuable in studying math their first year. Summarize their advice (include the name of the student you spoke with). Several of you may go together if you wish, but each must write their own summary.*

*I recommend that you ask them to lunch/dinner, since this makes conversations a little easier with people you may not know. I have contacted them all and let them know to expect you to reach out. If you are uncertain, I may be able to recommend a student for you to contact.*

**Assignment 2.5.** *Look at at least one section you covered this week. Write “study notes” for that section focusing on the big ideas and the fundamental concepts - state it in math, explain it in English and connect it to the various problems covered in that section (how will questions that use this idea be framed? what information will you have to be provided?). Determine if there is both a geometric and algebraic perspective on the topic (and if there is include both).*

**Assignment 2.6.** *Look for/identity an apparent inconsistency from a math class lecture, homework, or study. Show how you resolved it or state what you think the inconsistency is (it could be how there are two different perspectives on the problem and they aren't immediately connected, it could be where there are different assumptions in play but that isn't clear at the start, it could be related to expectations for learning or presenting work that don't seem to align with the goals of the course).*

**Assignment 2.7.** *Identify an apparent/perceived biblical inconsistency that impacts how you make progress in the Christian life (do not use anything huge like the trinity, focus on things connected with your struggles). Can you resolve the inconsistency? If you can't, how can you handle the dissonance in a way that strengthens your faith?*

### 3 WEEK 3, 9/8/23

**Reading:** Read over Chapter 3 again (focus on the ideas connected to studying for understanding the fundamental concepts and look for a concrete way that you could do this better this week).

**Assignment 3.8.** *Find and state a theorem from your current unit (pick the hardest one for you to understand) and write it in conversational English. Pictures and examples would also be appropriate. Demonstrate the fullest understanding of the material that you can achieve.*

**Assignment 3.9.** *Find (or make up) two distinct problems (pick ones that you think will be more complicated), and solve both. Then in concise English present the process used to solve the problems (bullet points are fine, these should be able to be used as instructions to be able to solve new problems of this type in the future).*

*Identify (in English) the characteristics about the questions that help you know to use this method. State all the assumptions necessary for this method to work.*

**Assignment 3.10.** *Address the validity of the “conclusion” in one of the following scenarios by considering both the assumptions made about the situation/decision making process and the actual thinking/deciding process (aka the logic):*

- *Your company has a dress code, but you have to leave straight from work to make an appointment that requires dress not really appropriate for work, so you split the difference and plan to avoid your boss as much as possible since you noticed someone else in your department did it.*
- *You decide to skip class because you’re tired and you can get what you need for the test from the book.*

## 4 WEEK 4, 9/15/23

**Reading:** Read over Chapter 3 again (focus on the ideas connected to integrating new material with old material).

**Assignment 4.11.** *Pick a section covered this week in class, and create (or revise) study notes that emphasize connections between ideas and demonstrate good English explanations (but be concise).*

**Assignment 4.12.** *Give an example of your own good or bad intuition in a non-academic environment and justify why it was actually the right or wrong way to act. What can be done to improve your intuition in a similar situation in the future?*

## 5 WEEK 5, 9/22/23

**Assignment 5.13.** *Make a list of types of questions that you expect to see on test based on the material covered since the last test. Pick at least four of these and write a prospective test question for each. State the learning objective the question assesses (be sure that you include the concept being covered), create a problem, solve the problem (including a bulleted list of the steps required to solve the problem - use only a couple of words per step).*

**Assignment 5.14.** *How does the idea, “If you don’t know what’s going to be on the test, you aren’t ready for the test.”, apply in non-academic contexts? While we know we don’t have actual written tests, consider other kinds of “tests” that we might face.*

## 6 WEEK 6, 9/29/23

**Assignment 6.15.** Prepare study notes for the material covered this week. Your notes should include everything you need to know about the theory/definitions in both math/English, how the theory connects with problems, the types of test questions you expect to see on the test over this week's material, and clear indications on how the problems you expect to see are to be solved.

In general, you should include pictures whenever you can, examples that illustrate when the theory works and when it doesn't (with pictures if possible), and these elements should be integrated with the theory, not separated into different sections.

## 7 WEEK 7, 10/6/23

**Reading:** Read chapter 4 (focus on the discuss around when to review)

**Assignment 7.16.** Write a strategic plan that you can actually make happen ( $\frac{1}{2}$  – 1 page) on how to incorporate review into your weekly work for your math course. Determine a concrete way to measure how effective you were at executing this plan. Plan to report on how well you kept to your plan next week.

**Assignment 7.17.** Both academic and non-academic responsibilities benefit from faithful, frequent participation. Think of at least one non-academic area in which it is hard for you to be regular/faithful. Identify realistic, practical way(s) to motivate yourself and hold yourself accountable to participate regularly. Can a habit of regular/faithful participation in one area of your life make it easier to be regular/faithful in another area? (Briefly address how, why or why not.)

## 8 WEEK 8, 10/13/23

**Reading:** Read chapter 4 (focus on the discuss around how to review)

**Assignment 8.18.** *Complete one of the following:*

1. *Create a 5-10 min video of yourself reteaching a significant idea from the current unit.*

*The video does not need to be a polished presentation. Start cold, go as far as you can, then pause and figure it out, continuing or creating a followup video clarifying the ideas.*

*Sending me a link through Teams to your video store in OneDrive is probably the easiest option.*

2. *Create notes that you could use to teach a topic to someone else (like a teacher's lecture notes outlining exactly how they would teach the topic and handle questions).*

*Strongly, strongly recommended, but not required, is to give your lecture to at least one person who is also in your class. If you do this with someone also taking Ma 199, then make sure you both pick different topics.*

**Assignment 8.19.** *State your proposed review plan from last week, and report on how well you executed your plan.*

## 9 WEEK 9, 10/20/23

**Reading:** Read chapter 5

**Assignment 9.20.** *Identify the things that distract you from focusing when you study (they could be in your environment or about you). How can you minimize those when you sit down to study?*

**Assignment 9.21.** *Determine how long you are reasonably able to focus in one sitting (is it 20 minutes? longer?). Determine a plan to study in a way that makes it easier to stay focused while you study (see the book for suggestions if you're not sure how). When you study your math this week, document how well you're focusing during your study (keep a list, record date/time and what percentage of focus you felt you had during that time).*