# Math 43 Personal Development Exercise:

a) 5 algebraic skills from algebra, geometry, precalculus, and trigonometry that I did not master before this class that caused me to do worst than I could have if I had mastery of them.

- Understanding of arithmetic sequences
- Knowing the equations of conics
- Knowing what the foci and directrix of a hyperbola is
- Knowing the graph of exponential functions
- Knowing how to identify the domain, range, and asymptotes of trigonometric functions

b) 3 recommendations for what a student should do increase their chances of success, and why each one is helpful.

- Arrive to all of the lectures on time.
  The lectures are 50 minutes, and new material is taught in every minute. I found that any time I missed even 5 minutes of the lecture, it took quite a bit of time for me to become familiar with what I missed and I had to go to office hours to make sure I understood everything completely.
- Ask questions.
  Whether you ask questions in class or during office hours does not Matter, just as long as you get any questions you may have regarding any concept is most important. I found that after I began asking questions during office hours, not only my scores began improving drastically, but my overall understanding of the different concepts became more clear.
- Form study groups or find a study-buddy.
  Forming study groups is extremely useful, as it keeps you away from distractions and helps you stay on track with your study times. During most of the study sessions we had with my study-buddy, we were able to complete twice as much work together in a certain time versus doing it alone. Having a study partner also allows for you to catch any notes you might have missed in class, and see how another student may take an easier approach to solving certain problems than you which could be useful for taking exams when your time is limited.

c) 2 study or personal "mistakes" I made during this quarter that really hurt my chances of succeeding and why specifically each one had a negative impact.

- Procrastination.
  I made the mistake of procrastinating studying for my first few quizzes which resulted in me getting poor grades on those quizzes. This in turn affected my entire grade for the class, and even if I did much

better in the rest of my quizzes, those few still heavily impacted my grade.

- Not reading the textbook more often.
  Although I thought that just paying attention to lectures would be enough, I found that I needed more than just what was taught in lecture in order to answer all of the assigned homework problems and midterm reviews. I did not end up looking at the textbook to find these answers and used whatever knowledge I had from the lectures to answer as many problems I could, but still I feel that I should have read the textbook more. Certain midterm and quiz questions were also based on assigned homework that required me to review my textbook, which I did not always do, and as a result I did not do as well on certain quizzes as I would have liked. Again, not doing well on quizzes, did negatively affect my grade.

[a] 5 algebraic skills from algebra, geometry, precalculus and trigonometry that you (or someone you know in the class) did not master before this class that caused you to do worse than you could have if you had mastery of them

1. Memorizing the special angles in trigonometry .
2. Inability to find a coterminal.
3. Graphing of quadratic function. Especially inverse trig graphs and exponential graphs
4. Long run,increasing, and decreasing behaviour of a function
5. How to find the symmetry of functions and graph, how to seee if even or odd.

[b] 3 recommendations for what a student should do to increase their chances of success, and why each one is helpful ?

1. Do the homework immediately or soon after the lectures. If you do the homework too late after the lectures then, really you would be clueless while doing the homework. You would have to revise your lectures all over again. However, if you do it while it's fresh in your mind then you wouldn't have to go through everything all over again.
2. Always argue for your marks. He is surprisingly generous with marks. And if you argue and explain to him the reason for your mistakes he will give you marks. As well as explain to you the reasons for your mistake.
3. Sleep early before an exam and do not study the day before. It is better to not study the day before. It just causes confusion and aggravation. If you study the day before for a quiz or exam trust me the stress is overwhelming. Sleep early do you have a fresh mind for the exam.

[c] Two study or personal "mistakes" that you (or someone you know) made during this quarter that really hurt your chances of succeeding, and why specifically each one had a negative impact

1. Staying up late before an exam because I wanted to study. Firstly, don't do this if you are a heavy sleeper there are potential where you will not wake up to your alarm clock. Secondly, if you don't wake up you may be late for an exam which is super bad. With less time to do your exam, your careless mistake will increase as you are rushing.
2. Work on a strategy with your partner for group quiz. It's good to practice with your partner before a quiz. If not split the workload. Of course you should know your work, and have done the homework. However, if you are really pressed for time as you have test and other quizzes to worry about. Spilt it and master 50% of the syllabus for the quiz while your partner masters the other 50%. And communication is key to succeeding the partner quiz. If you do not communicate and work well together you will both just be each other's downfall.

# PERSONAL DEVELOPMENT

**a)**

1.The distributive property

2.Graphs of sine, cosine, and tangent functions

3. Solving trigonometric equations

4. Vectors

5. Graphs of hyperbolic functions.

**b)** 3 recommendations:

1. Must do homework and follow tentative homework list: Students must do homework to remember and understand the lecture as well as to enhance solving skills. If you don't do homework, you hardly get high scores for quiz and exams. Following tentative homework helps you to get familiar with upcoming questions in quizzes.

2. MUST prepare for Review package: you should focus on studying review package for midterm, most of the questions in quizzes before the midterm appear in the review package. Not only you can do well in your quizzes but also you don't have to spend lots of time on reviewing midterm later.

3. I think it's better for you to find a partner to study together right away. Group of 2 people is more efficient and you also get used to your partner and both of you guys can do better in quizzes and partner quizzes. There are 2 partner quizzes (2/8 quizzes)

**c)** Most of the time I lost many points because I didn't simplify my answers. For example, instead writing down 3/4 I still keep my answer as 12/16. You should try to simplify your answers to earn full credits.

I also lost many points because I didn't solve math problems in details. I skipped a lot of steps and just jumped to conclusions. It's very harmful cause you can't earn full credits, and if your answer is wrong, you can't earn partial credits.

Personal Development Exercise

[a] 5 math concepts that I needed work on:

1. Logarithms and graphs of logarithms
2. Basic mental math/careless algebra errors
3. Graph transformations
4. Graphs of exponential functions
5. Conics

[b] 3 recommendations for what a student should do to increase their chances of success

1. Do the work, put in the time. In this class, a lot of breakthroughs in understanding the concepts explained in class are a result of work done outside of the classroom. Professor will explain the basic concepts, but mastery of them will only come with practice.
2. Learn how to communicate with your peers. It took me a LONG time to realize that despite having momentarily strong feelings of motivation and commitment, that I am generally an unreliable person when it comes to being able to create a studious atmosphere where I can focus. If you're facing similar problems, working with other students really helps, so reach out and create study groups!
3. Challenge yourself to find more efficient ways to solve the problems. Whether it's writing faster, omitting unnecessary steps, or learning the concepts better, those couple minutes saved can determine whether or not you finish the whole test. If you practice like you're on a time limit, chances are that you will solve them faster later.

[c] 2 study or personal "mistakes"

1. Not reviewing notes. Even if all the formulas are memorized, looking through the notes can help you notice tiny scribbles that may contain small, but important bits of information to understanding the parameters of a problem. As an added bonus, reorganizing notes soon after a lecture can bring up points discussed in class that you may have forgotten to copy down.
2. Not sleeping before exams. There's nothing more frustrating than staying up all night, tired and cranky, only to have massive brain farts on concepts you already knew during the test. It's a self-defeating strategy, that's worth the effort to try fixing.

Math 43 Personal Development Exercise

To all future Math 43 students,

At this time, I do not know if I will pass the class or not. The advice I am about to give you will explain what mistakes I made to be put in this situation. I hope that you all can learn from these mistakes and know not to make them while taking this class.

Skills from algebra, geometry, pre-calculus and trigonometry:

- Majority of what you learn in math 42/trig(knowing the unit circle, trig identities, vectors, polar graphing)
- Fractions, you definitely want to make sure you're comfortable dealing with fractions as they come up all the time
- Basic algebra skills such as factoring, factoring comes up a lot as well
- Dealing with exponents(when to add, subtract, multiply)
- Simplifying your answers(this may seem small, but it can cost you a lot of points if you don't simplify)

What to do in order to succeed in this class:

- Show up to class, take notes, do the homework. Even though the homework isn't collected, I highly recommend doing it because it's great practice of what you learn in class. Going to class is also important because there will be things discussed in class that aren't in the textbook.
- Take each midterm very seriously, especially midterm 1. You will hear a lot about how midterm 1 is extremely important for your grade and it is. Make sure you do well on it so that if you mess up on a midterm in the future, you won't be screwed. Midterm 1 can either help your grade if you do well or it can hurt your grade significantly if you do poorly.
- Try to do well on all the quizzes/partner quizzes. They might not seem that important but all the quizzes definitely add up to a lot of points. For partner quizzes, I highly recommend finding a partner and actually communicating and working with them. My first partner ended up not turning in the quiz and dropping the class afterwards so I was left with a zero for that quiz. Make sure you and your partner are on the same page.

Personal mistakes that greatly affected my grade:

- Not giving myself enough time to prepare for midterm 1. As mentioned above, midterm 1 is very important. It is also probably going to be the hardest midterm because you don't know what to expect. Make sure you give yourself plenty of time to review and ask questions. If you try to cram everything in the night before, you won't do well on any of the midterms or quizzes.
- Starting off great but ending poorly. You will hear about this as well. Unfortunately, I was a victim of this. Just because you do well at first doesn't mean you can start to slack off. Don't just think because you do well at first that the class is easy and you don't have to put in that much work to succeed.

Math

[a]1.Polar coordinates

2.Understanding graphs

3.Simplifying hyperbolic functions

4.running symmetry tests

5.Finding angles algebraically in the minimum interval

[b]1.When practicing practice the quizzes and the handout given on the websites look at the key points simplify your answers as much as possible it will help for scoring on the quiz

2.Do not be complacent(review the work within that day if possible) and be consistent once u start being complacent work will pile up and it will be hard catching up

3. if you're an auditory learner lectures are very important even if nothing is going on your mind copy what professor writes on the board and review it

[c]1.not managing time wisely Do not do last minute work as it will only backfire you.

2.Not asking when you do not know what's going on. Not asking would also backfire you as more work will be piling and you would be clueless as to what to do to move forward

Personal Development Exercise

a.) 1. Graphs of inverse functions

2. Memorization of the unit circle

3. 2D Vectors

4. Factoring/Simplifying

5. Memorization of trigonometric equations

b.) 1. Take Notes: Taking notes from the book and from lecture helps a lot for preparing to take a quiz. The notes you take can give you additional understanding on concepts because they were written by you and they can be easily referred back to.

2. Study Groups: Finding friends or classmates to do homework or study with can be very beneficial to your learning. Study groups allow for a more personal learning experience and better understanding of math concepts.

3. Office Hours: Coming into Mr. Lo's office hours for more than just quiz corrections can be helpful for learning and reviewing the concepts he taught in the class. Going to his office hours allows for clarification and additional help on homework and midterm reviews.

c.) 1. Lack of sleep: There were some days that I did not balance my assignments well, which led me to stay up to work on them. This led to not being able to get enough sleep for the quizzes or exams the following morning.

2. Practice: For most of the chapters, I did not do the exercises in the beginning of each section. This could have caused me to not be as prepared as I could've been for the quizzes and exams.

A.

The radian values of the Pythagorean functions are crucial and will help you understand polar coordinates much better.

The properties of exponents can come to haunt you if you don't fully master them before this class.

Memorize the Pythagorean identities.

When performing an operation, it is easier to simplify rather than expanding in certain occasions.

Make sure you understand the idea of volume, area, and direction, look at your answer is think about it logically.

B.

When the review sheet for the midterm sheet is up on the class website, take a glance and print it out. I recommend doing what you already know when studying the review sheet, and then glance over the future material to get a good foreshadow of what is next and what you will need to study for the test. You ensure yourself for success if you do this because pushing it until the last minute will only make it tougher to understand the material.

If you work with others it will help you succeed in the class, by sharing ideas as well as debating certain answers. Challenging one another can help you understand certain material better, it also helps having a partner correct your mistakes or vice versa. If you form a good connection with your partner, they can help you with some material you might have forgotten about or just need help understanding better.

Use the answer keys from the quizzes to study, if you did poorly in some quizzes learn from your mistakes by studying them. For all you know the same question on a quiz can appear on a test, if you go over the answer key you won't make the same mistake. If you decide to do the questions all over again it helps if you understand the necessary steps required to reach the correct conclusion.

C.

Staying on top of the homework was hard and sometimes I'd push it to the side and soon found myself far behind playing catch up. Some questions from the homework of a chapter can appear on a quiz or test that was never talked about in class.

Learning how to finish a timed quiz/test without making small mistakes is difficult, the pressure gets to you and can cause you to panic. Learning to let go is hard but is necessary, if you continue to spend too much time on one problem it will eventually come back to bite you when you have a few minutes to finish more than one question. It would've helped to do the seemingly easy questions first and then tackle the hard ones last to give myself enough time to finish the questions fully.

Personal Development Exercise

a) 1. One of the skills that I have not mastered before taking math 43 was memorizing trigonometric formulas. I believe that I would always struggle with whether or not the equation of sin^2x (+ OR -) cos ^2x = 1.

2. Another skills that I should have mastered before taking math 43 was knowing what a graph from an equation looked like. On the first midterm, I struggled with find what the graph of ln or e^x looked like.

3. Another still that I did not master was difficulty remembering vectors in 2-D. I believe that it is crucial to have an understanding of what a vector is but I have not learned how to apply vectors to math in about 3 years and completely forgot about it.

4. One of the skills that I should have mastered before taking math 43 was the knowledge of logarithms. Logarithms were a challenge for me that I never learned how to master and would always skip it. I believe that logarithms play a significant amount in math 43 and should be mastered by a future math 43 student.

5. A friend of mine that has not taken math 43 but took calculus in high school, completely forgot the points on a unit circle. I believe that one does NEED to know every point in a unit circle in order to be successful in math 43.

b) 1. A recommendation that should be used for a student to be successful in math 43 is doing the midterm review packets. Before taking a midterm, I highly recommend the student to do the whole midterm review packet with no questioning. I believe that the midterm review packet is very similar to the midterm and therefore, a student should review the midterm packet.

2. Another recommendation that should be used is having someone in the same math class to study with. Although studying with someone else can be disturbing at times, I believe that if I have someone to study with, I am more encouraged to try harder in math. Having someone to study with is beneficial for me because I am a competitive person and having someone to "compete" can be fun.

3. Lastly, I recommend a future math 43 student to not only study from the midterm, but also study from the homework. Throughout the course of math 43, I always did my homework and would check the solutions to see if my answer is right. Although it is good to check your answers, I learned from Professor Lo that I should not rely of the answers all of the time and just assume that I am getting the right answer. I believe that this is helpful because I did not rely too much on the book but more of myself.

c) 1. One mistake that I made in math 43 that really hurt my chances of succeeding is waiting until the last minute to do my homework. Although it is very obvious that when making this mistake, I will surely fail, I thought that math 43 was a pre calculus class that I took already in high school. I believe that I should have never thought that way and should have done the homework no matter what. Doing homework in math 43 is very crucial and can harm your chances of succeeding in the class.

2. Lastly, a mistake that I regret making when taking math 43 was not trying as hard during the first weeks of the class. When I slacked off in math 43, I took long hours of work and just spent time doing work from other classes, not worrying about the math class. This was a mistake that I regret the most this quarter because if I did not slack off and did my work with great effort, I believe that I would have done very well in the class.

Personal Development Exercise

The biggest algebraic problems that I had were factoring, staying consistent with signs, completing the squares and simplifying. The precalculus problems I had was finding inverses, finding holes in the graphs, finding long term behaviors of certain graphs and logarithms. Trigonometry wise, I struggled with knowing the sins and cosines very quickly, vectors, double angles, flower graphs. One recommendation i have in order to succeed in this class would be to do the study guides and understand them. Reason being that the midterms are VERY similar to the review packets. MAKE SURE TO UNDERSTAND HOW TO DO EVERY PROBLEM SO THAT YOU CAN HANDLE ANY VARIATION OF IT. That means understanding the problem, not just knowing how to do the problem on the review packet. Second recommendation I have is, study with a partner or group outside of class. This really helps out when learning because if you missed something in class, perhaps someone else in your study group caught it. Plus studying outside of class really lets the material marinate in your brain and more of the material will stick. Lastly, I recommend you go to office hours if you have any questions. The professor knows the material like the back of his hand so no one can give you better help than he can. If you go to any other teacher, they can help you, but, they may miss an important detail that your professor is looking for. Only your professor knows how he wants the answer for the midterms and quizzes. One study mistake I made was, I wouldn't know how to do a certain problem on the review packet and I would leave it alone and hope that it wouldn't show up on the midterm. Keep in mind that anything that can go wrong, will go wrong. That being said, the problems that I was hoping weren't on the midterm because I didn't know how to do it, ALWAYS showed up on the midterm. Another bad study habit I had was not checking my work when I was trying to learn the material. This really affected me when it came to the midterms and quizzes because I made a lot of mistakes. These mistakes were costly. STAY ON TOP OF EVERYTHING. IF YOU DON'T STAY ON TOP OF EVERYTHING AND SOMEHOW GET PASSED THIS CLASS, YOU WILL STRUGGLE IN LATER CLASSES BECAUSE THESE CONCEPTS WILL COME BACK TO HAUNT YOU.

A. From what I have seen from the people who have dropped this course, five main skills from previous classes that were absent but vital to succeed in this course were:

1. How to find the values of sin, cos, and tangent without the aid of calculator or unit circle.
2. How to find the arc sin, arc cos, and arc tangent.
3. How to simplify expressions.
4. Law of logarithms.
5. Memorizing the formulas beforehand.

B. Three recommendations to increases their chances of success are:

1. Do the midterm review ahead time. This way if you have questions there is time to ask a tutor or others to help solve the problem. If you leave it for the night before thinking it would prep for the midterm, you are wrong.
2. Do the midterm review questions multiple times. The midterm and the midterm review questions are very similar. However, just doing it once will not guarantee you know how to solve the problem. I recommend you redo the midterm review from scratch at least 3 times to see if you came up with the right answers.
3. Grade your returned quizzes ASAP. Not only does this ensure a smaller queue to reclaim your points, but this ensures that you have time to review your quiz before a fast approaching midterm so you would not make the same mistakes. Redoing it over again will solidify your understanding.

C. One study mistake I made was disregarding the 1st midterm review. I waited till last minute to do it. This did not give me a chance to do it multiple times. I had thought that only some of the midterm review would be on the midterm and the rest would be random questions like the quizzes. Another study mistake I did was on one of the 1st quiz, and it was because I did not go to the tutoring center to reclaim my points. I had thought there was no possible way to receive points, but i later learned that Mr. Lo is quite generous in giving back lost points.

5 skills that inhibited my ability to do better in this class would have to be: factoring, simplifying before continuing to solve a problem, order of operations, commutative and distributive rules, exponents and power rules.

Find the weaknesses you have in Algebra/Trigonometry and identify them so you can improve on the bad habits before it gets worse. Making these small algebra mistakes can lead to confusion and getting a problem wrong, even if you understand the conceptual aspect.

Challenge yourself to attempt more difficult problems, doing more than just what is done in class. What show up on tests and quizzes are most likely going to be more difficult than just the average homework problem so you should get more comfortable doing more difficult problems.

Repetition is a key component in cementing your knowledge and learning. Practice and apply what you learned to different situations and you will find patterns that will help you solve problems more effectively.

Two things that hurt my chances of succeeding:
Not reading the chapters, and not reading the chapters before we had a lecture on them. I feel that if I had read the chapters I would definitely have a better understanding, and if I had read the chapter before the lecture, I'd have a better general overview of the lecture concept and if I had any questions I would be able to ask or get them answered during the lecture.

Not doing assignments/homework when it is assigned hurt my success because I waited too long after we went over the lecture, that I was not able to retain everything that I had learned in lecture that day.

personal development exercise

[a]I did not master the rational expressions about adding and subtracting, exponential functions, simplifying expressions of logarithms, double angle from Trigonometry and the concept of power function. I should have master these skills from algebra and pre-calculus.

[b]In order to success in this class, first you should attend every class and take notes. It's not only just showing up to class but also get involve it. His lecture is well organized so the note is more helpful to understand the concepts than a textbook. If you miss the class, you will have some troubles to study by yourself. Second, Do the all of homework following a homework list that the order of Learn, practice and test. When I did the homework at first, I didn't check the homework list uploading on a website so I just did all of questions of the chapter. This causes I made same mistakes again and again. After that I started follow the homework list then I can analyze and understand every mistake. It's important to fix mistakes when you are solving problems. Third, use the supplements on the website. When it comes to be ready for midterm, you should review the midterm review packet on the website. Most of midterm questions are similar to review-packet so you can prepare what type of problems will be on midterm. Also, lecture supplements are very helpful to work through math problems on your own.

[c]I have the worst study habit that I crammed bunch of chapter before an exam. It goes very short time in my brain. I was hard to recall and remember the materials. for the result I got bad score from midterm1. Second I have some lack of preparation. I didn't read textbook before the lecture so It was hard to pay attention a lecture in class.

The five algebraic skills that I did not master from algebra are how to solve inequality, natural logarithm, and graphing the logarithm function, from geometry are, how to find the volume of cylinder, and I also have weakness in geometry naturally. Finally, from pre-calculus and trigonometry the skills that led me to do bad in this class are, the hyperbolic function, and the word problem in trigonometry. In addition, I know how to do all of the things that I mentioned above, but I did not understand the concept. I think that if you do not understand the concept, you're just memorizing the formulas and the steps, so it is helpful to understand the concept.

The 3 recommendations that I would like to give are, you have to go over the section or the chapter before it covered because it helps them to become familiar with the section or chapter, pay full attention in class when the teacher is lecturing because he may cover something that the book did cover, and the last but not least take a good note and study them after class.

The study mistakes that I did during this quarter are, I did not study the note that I took after class, and the second mistake was, I was jumping to the other section without mastering the previous section.

The good thing about studying the section before it covered is, you will be familiar with the section, and the section becomes easier for you to understand. Studying the note that you took after class is helpful because if you study material after class there is possibility that your brain can retain it.

## PERSONAL DEVELOPMENT

**a)**

1. Graphs of hyperbolic functions.
2. Graphs of sine, cosine, and tangent functions
3. Coordinate plane in space (x,y,z)
4. graphs of ellipses, circles, and hyperbolas
5. graphs of logarithmic and exponential functions

**b)** 3 recommendations:

1. Students can also watch videos on youtube to understand better the problems. For example if you don't know how to graph or sketch things, just watch videos from youtube to better your understanding. You can also use https://www.desmos.com/ to check your graphs.

2. Whenever the professor posts the review package, you should do it immediately. I found that professor also uses questions in the review package for prior quizzes. If you don't know what to do to prepare for the quizzes, study from the review package for midterm.

3. I think you should join a group to study together. I didn't have good scores but after I went to Math tutor to study with my friends my scores had improved, you can ask your friend easier cause professor is not free all the time for you. Math tutor is a good place, you should go here at least 2 3 times per week to ask Professor Bert Lo questions, you can understand the problems and you can also have points if you come and ask him.

**c)**

1. The first one is that I studied about practice questions a little. I just solved a few questions that professor gave to us. I didn't follow tentative homework list. The lack of study made it hard for me solve the questions.
2. The second one is that I skipped many process in the midterm test. The answers include 4 5 lines but I just wrote down 2 or 3 lines instead. for example, I just found the center of circle in my head and I didn't explain why I got it. That's why I didn't get full credits.

Personal Development Exercise

Some algebraic skill that one should master in order to succeed in this class are the trigonometric identities discussed back in math 42. Such identities ranges from quotient identities, even-odd identities, to half-angle identities, just to name a few. Another useful geometric tool is the Pythagorean theorem. The Pythagorean theorem is utilized in many different ways in math 43, such as the law of sine and cosine. In addition, one should also master both, the distance formula and midpoint formula. Although such formulas are quite simple and easy to understand, it is also utilized in many different ways in math 43. To illustrate, both the midpoint and distance formula is utilized when figuring out the shape and size of a sphere. On top of that, one should also be familiar with the unit circle. The unit circle is used and utilized very often in math 43. Mastering the unit circle means that one can figure out angles in radians in a timely matter; and it also means that one can figure the cosine/sine of an angle in a timely matter. At last, in order to succeed in math 43, one should master the quadratic formula. Although the quadratic formula is introduced to students at an early level, it is also used a lot throughout math 43 and pre-calculus in general.

A recommendation for students to increase their chances of succeeding would be always read the chapter before one gets to class. Like professor Lo said, lecture is

only a small part of the whole course, and simply learning from one's lecture notes won't lead to a great chance of succeeding. In addition, another suggestion that I'll recommend is always do the homework the night after the lecture. Doing homework while the material is still "fresh" is the best way to actually learn the material. If one chooses to do the homework, say a few days later, the materials won't be as "fresh" and memorable. At last, the last recommendation I'll give is to always visit professor Lo after the quizzes. This is a great chance for one go engage with the teacher, and also a great chance to earn back some additional points.

One personal mistake I made during the course of this class is not doing the homework assigned. A big change from this course to math 42 is that there are no required homework's assigned. Me, not being the most disciplined student, chose to only do some homework's assigned. Although this didn't cause me to get a very low grade, but it dropped my overall quiz and midterm grades lower that I would of liked. Another mistake I've made is not going to the tutoring center enough. I know there are some great tutors and opportunities available for me in the tutoring center but I was too stupid and lazy to utilize it. At last, the bottom line of this section, is basically taking control and responsibilities for one's educational career. Like Professor Lo stayed on his website, the one that cares the most for one's education is one itself.

Personal Development Exercise

Simplifying expressions, from radicals to complex fractions, adding and subtracting numbers with variable exponents, factoring complex polynomials, solving trigonometric equations using identities, and graphing various functions, from trigonometric, to exponential, are all skills that I had not fully mastered, that, as a result, hindered my ability to perform in the class.

The number one recommendation for this class is to do all of the homework assigned on the tentative homework list, as it points out specifically which problems will be tested on, giving more anticipation for the types of problems being tested on, as opposed to speculation on the material. Because quizzes for the class are all designed around homework problems, it is essential to understand every designated *test* problem, as well as the *learn* and *practice* problems on the list, as the quizzes are almost identical in nature to these homework problems, specifically the *test* ones. This strategy is great for ensuring maximum preparedness come test day.

Another recommendation that must be stressed is to make sure to use the midterm review packets to practice, as well as any other handouts on the course website. Just as the quiz content is highlighted on the tentative homework list, the midterm style and content is outlined clearly in the provided review packets, as the midterms nearly mirror the review packets in the types of questions being asked, as well as the layout of the test itself. This will allow for a student to be better prepared, and feel assured that they won't see many surprises. Additionally, content on the online handouts should also be studied, as these types of problems are also likely to appear on assessments, further preparing the student.

. The final recommendation for success would be to defend work as much as possible. Along with getting partial credit for problems that would otherwise have received zero credit, defending your work allows for a deeper understanding of what went wrong, and why. The instructor will help point out any flaws in logic or habit, serving as a reflective learning experience, wherein a student can get better insight into what it is they are doing incorrectly, so that they could adapt their learning to better succeed in the future. As the saying goes, "The measure of intelligence is the ability to change," and to adapt is to stay afloat.

A major mistake that I had made was by not seeking help through the instructor or provided tutoring services when I reached a misunderstanding, or incorrect notion about a problem. This was harmful to my learning because it left gaps in my understanding, which would in term be evident through assessments. Although it is important to struggle and attempt to solve and understand every problem by oneself, there comes a point where an individual should push their pride aside, and seek aid. A lot of times through the quarter, when I ran into problems, I would move on once until I had only a vague understanding of it, while I should've seeked help and filled the gaps in my knowledge, as the gaps were revealed during the test.

Another barrier to my success was that I did not challenge myself as much I should have when performing practice exercises. I would often times attempt a problem, and then immediately search for verification for the answer instead of going back through my work and

verifying my logic. This was damaging because it didn't teach me to check my logic as I solved a problem to, in turn better identify any knowledge gaps that need to be filled. I was not able to fully gauge where it was that I went wrong when I immediately searched for the solution for the problem, which resulted in mediocre problem-solving skills, problem solving being an essential skill in math.

PERSONAL DEVELOPMENT

[a]

- Graphing
- Log and ln
- Hyperbolic function
- Parallelogram
- Plotting points

[b]

- *Don't do shortcut.* Professor gives out partial credit for each step so even though you have the right answer but missing in steps you wouldn't get full credit anyway. Moreover, if your final answer is wrong yet you did every step that performs in a logical way then you would still get partial points for the problem
- *Always perform sanity check.* It is the sanity check that helps you know whether your answer is correct or not, cause some problem links together and if you get the first answer wrong the rest wouldn't be right either. In addition, you earn 1 point extra credit for performing sanity check
- *Do not erase your previous work even if you think it's wrong.* Professor will look at the old works if you happen to be unable to finish the new work on your paper to give out partial credit. If you just cross the old work and do the new one next to it, he at least can point out which part you messed up and give out extra point if it seems like you are on the right track, just messed up with the calculation.

[c]

- One of the mistakes I made is to not come to see professor to defend for my work. I believe just because I did the wrong calculation it means my work is wrong. However, he does give out partial points that will bring up your grade a lot if you just come and ask him about your work.
- Homework. I normally did all the homework he gives out even though I dont have to submit it. However, I performed a lot of shortcuts in my homework which makes it become a habit and I ended up doing shortcut in tests and quizzes, which makes me losing points and sometimes come up with a wrong answer

Personal Development Exercise

5 Algebraic Skills

1. Finding symmetry of graphs
2. Area of triangles/parallelograms
3. Logarithms
4. Inverse functions
5. Co-terminal angles

3 Recommendations to Increase Your Success

1. Use the free amount of resources given to you, whether it's studying with a partner in the class or the chance of going to group tutoring. You may think you're better off studying alone, but any extra help is beneficial.
2. Make a specific time to study/do homework on certain days and stick to it. If you're on a schedule you're less inclined to procrastinate and tell yourself "I'll do it tomorrow."
3. As someone who is easily distracted, next time I'd try to seclude myself from my phone by turning it off or leaving it to charge on the other side of the room. Usually, after 5-10 minutes of working on homework, I'd check on my phone and suddenly be scrolling through the internet for 20 minutes and forget what I'm doing.

2 Study/Personal Mistakes

1. I started the class thinking I didn't need to study as much believing it wasn't necessary to go over notes or reread the textbook. Compared to my previous classes where I understood the topics after the lecture and can finish the homework in one sitting.
2. On taking partner quizzes, I didn't do my part and study enough becoming dependent. In the end both of us made mistakes with not sufficient time to finish resulting in a poor score.

# PERSONAL DEVELOPMENT EXERCISE

1. 5 Algebraic skills from algebra, geometry, precalculus and trigonometry that I (or someone I know) did not master before this class that caused me to do worse than I could have if I had mastered them are:
    - Shape of graphs, like $y = x^5$, $y = 0.5^x$, $y = e^x$, and $y = \ln x$
    - How to work and solve "ln" and "e" functions
    - I did not get use to in using phi for degree, therefore it slows me down to count the value of sin, cos, and tan
    - Did not master the trigonometry identities equation
    - Basic knowledge about conics

2. 3 recommendations for what a student should do to increase their chance of success, and why each one is helpful.
    - You must do all your math exercises, because the more you will meet a lot of variation of problems. Nevertheless, the more you do you exercise, the more you will master the material.
    - Immediately ask question to your instructor if you have something that you do not understand, because if you hold up your question you might forget what you want to ask. Not only to your instructor, but also to your friends or tutor.
    - Form a study group because it really helps a lot. It will be fun and less stress if you study with your friend.

3. 2 study or personal "mistakes" that I (or someone I know) made during this quarter that really hurt my chance of succeeding, and why specifically each one had a negative impact.
    - Do not ever underestimate the material you learn even though it is super easy, because if you underestimate something you will not study or learn harder than usual and it will affect you in your test day.
    - Always check your work after you finish working on your quiz. I am a very careless person, I rarely get a perfect score in my quiz and midterm, because I usually make a little mistake on my arithmetic. The worst part is when there is more than one part in one question, each of the question relates to each other, and then you make one small arithmetic mistake and you will lose all your score from that question.

[a].

1. The hyperbolic functions

2. How to graph of polar equations

3. Find the line of intersection of two planes

4. I do not know how to use mathematical induction

5. I do not know what is Pascal's triangle

[b].

1. You should attend every class. Because there have a lot of material is not in text book. Just don't absent.

2. You should do your homework. Professor Lo will post the homework list on his website. You should do all of them if you really want be success in this class.

3. Find a good partner. There are almost two team quizzes, so you must find someone and don't be shy. Also, you can discuss homework answers together.

[c].

1. Because I am international student. Sometimes, I cannot totally understand what the question asks for, or misunderstand the question means. So, I must enhance my English ability.

2. I will be nervous when I am taking a test. I will be careless, so I will make some mistakes. It is frustrated that you cannot get whole point in a quiz which you really work hard on it.

Personal Development Exercise

Hello fellow pre-calculus student. You might be thinking "Man, this course is gonna be a cinch!" Well, unless you're a super genius, it actually takes a lot of work to be able to do well in this course. Mainly, you want to have good foundation with the following subjects: hyperbolic functions, graphing polar equations, knowing how to plot polar coordinates, sin, cos and tan on the graph, formulas on 3D shapes. Without knowing how to do these, you're gonna have a bad time; you'll probably be using all these techniques most often than not, and they'll be especially important later in Calculus, so it's a good idea to brush up. Sometimes, knowing these things may not be enough. Here are some recommendations that can improve your ability to understand, ultimately passing the course. Firstly, you want to use every single piece of material Bert gives to you in class. While the amount of homework he assign may seem a lot, (almost at least 30 problems each section,) it's all relative and not only helps you understand, but master the techniques in the class. Second, always go for help in times of need. Sometimes, people don't like to seek help, maybe because they're shy, ashamed they don't know, cocky, etc. But as a student in this course, you're probably going to need that extra help, because you're not going to fully understand all of it by yourself. Not as fast as you'd hope at least. That is why when Bert helps get you hours with your own tutor, take advantage of it. Another recommendation is that you use the extra handouts Bert assigns on his website. The handouts generally give you tips and a deeper understanding with whatever material you're learning. It's like adding a motor to your canoe, except that the motor s powered by how much time you put into cranking the pump that'll make it go. When taking this class, I had my own fair share of mistakes that I wish I should never have done. Otherwise, my grade would've been higher than the way it is now. Like I mentioned before, use all of the material Bert gives you as they will help you not only understand, but it will help you master the material that you are learning at the moment. Once, I didn't complete the "test" part of the homework, and sure enough, the quiz had "test" level questions on it that I was sure to get if only I completed the homework. Another mistake that I've done was show up to class late. You might be thinking, "Anonymous! How's it hard to show up to class on time? You got a miracle bed or something?" I wish. But as it turns out, Bert's computer where you log in only accepts sign-ins as on time before your class begins. After that, Bert closes sign-ins to begin lecture and if you show up just when lecture starts, sorry buddy, you're going to have to wait until lecture is over before you can sign in. So, from one student to another, make sure you can show up 5 minutes before the lecture. 10 minutes is best.

There you have it. Good luck to your future endeavors.

Personal Development Exercise

[a] Prerequisite skills needed:

The class is heavily centered around polar coordinates, trig functions, trig identities, graphs of various equations and factoring. For a large majority of the class, even after you pass the sections involving polar coordinates and trig functions/identities, they still come into play towards the end of the quarter and will continue to pop up in more advanced classes. It is key to your success that you memorize the values for the unit circle, and understand the trig functions. By understanding the trig values I don't just mean memorizing when to use them and how to use them. It is important that you understand their graphs, domains, and WHY they do what they do. Memorizing the unit circle and having an in depth understanding about the trig functions will help you when you reach the later sections in math 43, and once you have a good understanding of those two skills you must move on to understanding the trig identities because they will pop up in complex equations that you will need to solve and knowing them from the top of your head helps immensely, especially when you get into the related topic of hyperbolics. Also, knowing how the graphs of common equations you experience in precalculus look and operate will help you solve problems that you may have difficulty solving if you don't know their graphs to begin with. Lastly, factoring. Factoring may seem like an elementary tool we use in math and take for granted, but this class will test your ability to apply factoring and knowing how to factor well will make your life easier and help you solve equations that you otherwise would not have been able to solve.

[b] Recommendations:

This class is centered around you understanding the concepts that you have learned in your previous math classes and understanding the new material you will learn in math 43. If you're the student who would rather not know how or why something works and just want to plug in numbers into equations, this class isn't for you. On the other hand, if you enjoy math or at the very least like to know why you're performing an operation and how it works then look no further. The best recommendation I can give you is to make sure you understand the concepts Professor Lo teaches you in lecture, and I mean really understand what you're doing. If you ever feel like you are solving a problem but don't know what it does, what it is used for or how it works then you need to go back and go over the section. Not understanding the concepts will almost guarantee that you will perform poorly on quizzes and tests. Understanding what you're learning will not only help you pass the class but because you understand the content you're learning you'll find that you will retain more of what you learned and will be able to solve anything, even if you haven't done it in a long time. This brings me to my next recommendation, which is to ASK QUESTIONS. The book is a useful resource, but Professor Lo will show you better and more efficient ways than the book on how to go about solving complex problems, so ask your questions in class if you don't understand something or are just curious about what you are learning. In addition, I highly recommend that you attend office hours consistently even if you are doing well in the class. Lastly, DO NOT shortchange your education. What I mean by this is having the mentality of "Oh, I only need to complete part of the homework because the rest is bonus or the same content." WRONG. Professor Lo will test your understanding in quizzes and exams, so plugging in numbers and memorizing formulas is not going to cut it. Look back on previous exams and quizzes and make sure you understand what you did wrong. The best way I can summarize this class, and as you'll come to find out from

Professor Lo is, "If you do not understand what you are doing or how it works, then you are nothing more than a computer. And a slow one at that."

[c]

One mistake many of my classmates made was not making/having the time to put the work into the class. As I've mentioned numerous times, this class is about understanding, and you need time and practice for this. If you are taking more than 18 units or have a very demanding job, I would recommend either putting off one of your other classes for a later quarter or just don't even attempt to take this class. This class has a high workload and I have found it all to be essential. Literally everything Professor Lo assigns has a purpose and will be used in class. Essentially everything you will be doing won't be busy work or "just cause" work. Lastly, a big mistake students make is cramming. Like I said before, everything you will be taught and doing will be used and is essential to your success. Understanding takes time and completing homework in regular intervals. Completing homework for a whole chapter in one or two days will hinder your progress because you will not retain what you have learned, and you will fall behind on the current topics which will cause you to retain less and less as the class goes on. If this is a habit for you, I highly recommend you plan accordingly and stay up to date or you will dig yourself a hole that is incredibly difficult to climb out of.

[a] 5 algebraic skills from algebra, geometry, precalculus and trigonometry that you (or someone you know in the class) did not master before this class that caused you to do worse than you could have if you had mastery of them

- Sine, cosine, tangent of special angles on unit circle
- Exponentials and logarithms
- Inverse sine, cosine, tangent of special values
- negative angles and co-function identities
- Double angle, sum & difference of angles identities

[b] 3 recommendations for what a student should do to increase their chances of success, and why each one is helpful

- ❖ Have a study partner with the same goals as you in the class.
  ~They can help you review certain concepts that you may struggle with that they may understand
  ~Your partner also can help you stay on track with keeping up with the homework by asking for help on certain questions.
- ❖ Practice more than what is required from the homework.
  ~Doing a type problem a certain amount of times may not be enough for you to really remember the procedure of carrying out the solution on the exam.
  ~There are many variations of a problem that you may have missed in the homework but shows up in the exams so do as much as you can to practice all sorts of problems.
- ❖ Don't be hesitant to go to the tutoring center
  ~Sometimes being in the same environment of other people doing work can motivate you to be studying.
  ~There are other students in the same class as you that may be willing to help and form a study group, or if you need a tutor there will be one at hand,

[c] 2 study or personal "mistakes" that you (or someone you know) made during this quarter that really hurt your chances of succeeding,
and why specifically each one had a negative impact

- ★ With the homework not having to be turned in, falling behind and having a pile of work to do.
  ~It's overwhelming and to finish the work, you are rushing so you're not really grasping the concept.
  ~You may not finish all your work so you miss the opportunity to practice certain problems,
- ★ Study for the exam the day before only.
  ~Cramming will not help you on the exam, you will forget concepts.
  ~It's stressful because there are a lot of concepts to cover for only one day, study ahead of time.

SKILLS

- Memorize the unit circle
  - The beginning of the course heavily relies on your knowledge of the trigonometric values and functions.
  - If you have a weak basis in trigonometry, learning about hyperbolic functions will be extremely difficult for you.
- Know your trigonometric identities
  - I did not know any trigonometric identities when I went into this class, and it was extremely difficult for me to wrap my head around it.
  - Hyperbolic functions and their identities are very similar to their trigonometric counterparts. Knowing your trigonometric identities will make things a lot easier for you.
- Knowing how to expand and simplify algebraic equations
  - This is fairly simple, but it shows up a lot throughout the whole course.
  - Making sure that you know how to do this while making little mistakes will really help you for the class.
- Having some knowledge about what vectors are
  - It's most likely that you will know what vectors are by the time you reach college.
  - You might have solved them in 2D for maybe your physics class.
  - In Math 43, you will be solving vectors in 3D, which will be even more complicated.
- Know what your basic graphs look like
  - There are many patterns you can rely on for figuring out how a graph looks like based on a certain equation.

IF YOU WANT TO SUCCEED

- Make sure you do your homework THOROUGHLY.
  - Professor Lo organizes the homework in a way that you can test yourself. Don't speed through your homework. Make sure you understand each question thoroughly.
- Go to the tutorial center
  - The tutorial center is a good place to sit and do your homework, opposed to the library, because there are always tutors on hand to help you if you get stuck doing a homework problem. You'll also stay a lot more focused.
- When studying for a partner quiz, MEET UP WITH YOUR PARTNER BEFOREHAND!
  - Partner quizzes are a blessing, but they can also be a curse. Make sure you and your partner are on the same page and familiar with the material before you go and take the test!

MISTAKES I MADE

- Not knowing prerequisites
  - I went into this course having a very weak basis in precalculus, even though I took courses all throughout Calculus AB in high school. (My high school just gave passing grades to anyone who had a certain teacher, and I had him for 3 years.) It was difficult for me because I had to spend a lot of time on all of the prerequisites.
- Skimming through the homework
  - I knew I understood the lectures and the material, and was confident when I was speeding through homework questions at home. When the tests came, I struggled a lot, but I wouldn't have if I was doing the homework properly.
- Working
  - I took 15 units this quarter and also worked at least 20 hours a week.
  - If you're planning on doing it, don't.
  - I had a lot of difficulties managing my time and was extremely stressed out.
  - This class is very difficult, and you want to spend at least 2 hours a day studying and doing homework.

Dear Future Student(s),

Here is some advice in order to help you succeed in the future, in Math 43, with Bert Lo:

A. Review algebra and other skills from past math classes, here are examples

    1. Work with exponents, know the different properties of exponents as well as what 1/an exponent means.
    2. Know Trig values from the unit circle. Intervals of pi/6 are required for early chapters.
    3. Make sure to do the arithmetic slowly and carefully. (I did 9+4+1 = 13 on a quiz incorrectly 3 times!)
    4. Practice factoring. Not just basic factoring. Be able to identify many common multiples.
    5. Review some logarithmic and natural log properties as well as how to simplify them.

B. Okay now how you can increase your chances of doing well in the class

    1. DO THE HOMEWORK. Yes it's optional. Yes he never actually checks it. Yes you should always do it. Doing the homework helps because a lot of the material on quizzes and tests appear in the homework yet don't appear in definite form in lecture. Additionally, the homework gives you an abundance of time and also practice, giving you an edge during tests because you are already familiar with processes and techniques.
    2. UTILIZE OFFICE HOURS. If you have a question, no matter how significant that question may be to solving a problem, ask. Office hours also give you the

opportunity to defend your work and earn a surprising amount of points back on your quizzes. It's also a good idea to come in and talk to the instructor about how to improve your own performance on quizzes and tests so that you understand what he expects.

3. MAKE FRIENDS. It's not that hard. I thought it was hard too, being a first year college, yet I found out that friends could be made very easily. Making friends is important because there will be several partner quizzes throughout the quarter and it helps to recognize the habits of multiple partners in order to avoid certain mistakes. Also, a quarter is an extremely long time, especially in a math class, for you to be alone without anyone to talk to.

C. Finally, here are some mistakes that you should try to avoid

1. This is both a study and a personal mistake. Although I did almost all of the homework, I didn't do it on a tight schedule and very frequently procrastinated until the very night before to complete it. Try and follow the daily announcements that the instructor gives as closely as possible. You need time to digest the information on the homework and in the reviews and procrastination often prevents you from understanding the maximum amount of material.
2. Try and come to class everyday. Even though I had perfect attendance, I saw first hand how missing class could severely affect the grasp of material via one of my quiz partners. Math 43 goes by fairly quickly and each class covers a unique topic. Skipping class guarantees failure because you might miss concepts that build upon each other and are required for the next chapter.

# Precalculus 43
# Reflection

Five mathematical skills That I needed to have worked on:

1. Logarithmic functions and natural Logs
2. Eul's number and its' relation to natural Logs
3. Mathematical operations using exponents
4. Area's/Volume's of Basic shapes.
5. Basic graphing of lines. (Distance/Midpoint)

Ways to increase success:

1. Practice
    a. There are many resources available at DeAnza and within the class to help further mathematical knowledge. In most cases I believe the best methods towards having a better understanding of math is practicing the same concept with multiple cases. Resources include: textbook, problems generated by the teacher, and tutoring.
2. Prove Your work
    a. Generate an understanding for the logic of a problem. Even if you have the answer do you know why it is the right answer? For even simple arithmetic, I believe being able to show the importance of the steps that lead to the answer can help build a strong foundation in Math.
3. Build a strong foundation
    a. From my experience math is a subject that continually builds upon itself, expanding on previous lessons. It is important that those previous lessons are understood before tackling their next level. If at any point you, as a student, are having trouble with previously taught concepts that are pivotal to lessons currently being taught, it is your responsibility to reinforce that weak knowledge so that you are more able to understanding future lessons.

Mistakes I have made:

1. Rushing through tests and quizzes
    a. Exams can be stressful, especially under a time limit. However that does not mean you should not double check answers. This calls back to the previous point which is proving your work. Being able to understand problems during a test and quiz can greatly help identify small/silly errors made in calculations.
2. Not spending enough time studying
    a. Budget your time outside of class wisely, so that there is enough time available to improve your mathematical skills.

Math 43 Personal Development

A. Being in this class has been an adventure and surely it was mostly do to using past mathematical skills from algebra, geometry, pre calc, and trigonometry. Some skills I would recommend to harness before being in this class is understanding how to simplify square roots into their final forms. Another skill to hone is to understand the transformation of radians to degrees and understanding sine, cosine, and tangent. A third skill to have when coming into this class is distributing and simplifying arithmetic because that is a big part of this class. A fourth thing to understand is vectors from the previous calc class. One last thing to understand is knowing how to use logarithms because I know some people who did not fully understand them and got stuck in the first half of the quarter.
B. I have 3 ideas or recommendations for future students should do in order succeed in this class. Make sure to read all examples and do the checkpoints in the textbook to better enhance your learning of the topic. Another thing is to make sure to communicate to your fellow peers because they as well will understand what you're struggling and could help you. One last thing to do for success is to ask for help from the professor. Don't be afraid to take the initiative to make that decision before it is too late.
C. One mistake that i learned that my partner did was to not do any of the homework and just do mostly of what he taught in class. That really set my partner back. One thing that I learned not to do in this class was not read any of the handouts other than the reviews for the class. Reading those handouts really would have advanced my understanding of the lessons.

A] 5 algebraic skills from algebra, geometry, precalculus and trigonometry that you did not master before this class that caused you to do worse than you could have if you had mastery of them.

- Properties of Trig Functions
- Properties of Vectors
- Conics in general
- Simplification
- Parametrics

B] 3 recommendations for what a student should do to increase their chances of success and why each one is helpful

- Doing your homework.
    - If you do your homework, it will solidify everything you learn in this class and you will eventually do things like clockwork. After all, as Professor Lo says, Homework is equivalent to 70% of your total learning.
- Takes notes of everything in lectures.
    - Taking notes will not only help you if you forget something later on, it will help your brain to remember it better because you are hearing it *and* writing it. Also, color-coding your notes can also help a ton, i.e. make all the stuff you feel that's important in a certain color so it pops straight out at you later when you go over your notes.
- Work with others.
    - Working with others will help you to fix your mistakes should they arise, after all, two or more heads are better than one. Don't be afraid, people *will* help!

C] 2 study or personal "mistakes" that you made during this quarter that really hurt your chances of succeeding and why each one had a negative impact.

- I missed a lot of lectures.
    - Missing lectures not only forces you to have to learn the material you missed on your own time, but it also makes it harder to keep up with the class. If you do miss class, try immediately to keep yourself up to speed, and if you find it hard to do so, ask for help!

- I was cocky going into this class and remained cocky throughout most of the class.
    - Being over-confident and cocky served to only hurt my grade because I thought I was perfect enough to not need to do any of my homework at all. Being over-confident in *anything* in life can only lead to negative results.