

SIPNAYAN 2017 REFLECTIONS

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November 11, 2017



Figure 1: Back: me. Middle, from left: Ryan, Jireh, Bas. Front: sir Josh.

1 OVERVIEW

The Sipnayan is a yearly competition run by the Ateneo Mathematical Society (AMS), held at Ateneo (de Manila University). This year is its 19th year, the theme being “eXplore, Imagine, eXperience”, the capital letters, of course, the Roman numerals for 19. Sipnayan finals are notorious for having weird power-ups (some may prefer the description “overly random” power-ups).

Any school can send up to three teams of three students and up to one alternate. The format is an individual round followed by team rounds. The individual round is written, twenty-one questions requiring short answers, eight two-point easy questions, five three-point average questions, five

Sipnayan is a Filipino word for math. Matematika is used more frequently, but I think sipnayan sounds nicer. The etymology is from isip (mind) and sanayan (practice), put together, “practice of the mind”.

*In practice, I always
have to prevent
myself from laughing
at "very difficult" as
a difficulty.*

five-point difficult questions, three eight-point very difficult questions. The scores of each member in the team are added up and ranked.

The top twenty-four teams are split randomly into two twelve-team groups. Each group undergoes a semi-final round consisting of five two-point thirty-second easy questions, five three-point sixty-second average questions, and five five-point ninety-second difficult questions. The top three from each group make it to the finals, which has its own weird mechanics. The top scorer in the individual round is awarded, as well as the top three teams in the final round.

Today, November 11, 2017, was the senior high school division, open to senior high school students. The week before, November 4, was for junior high school students.

2 PRE-COMPETITION

We were sent the email for Sipnayan some time in October, and Ms. (Marilyn) Soriano forwarded the contents to me, telling me to draft teams and register. I wasn't sure who exactly was qualified to join the senior high school and junior high school divisions, because last year was different, so I relied on the brochure, which said junior high school was from seventh to tenth grades and senior high school was eleventh and twelfth grades.

I asked the kids who wanted to join, and I decided to put alternates this year, who would take the written test for experience and help document. I sent emails and got confirmation for the senior high school team I sent, but not for the junior high.

Two days before the competition I was informed that the letter said junior high school was from seventh to *ninth* grades, and senior high school was from *tenth* to twelfth grades. This got me flustered and I checked, and it said something different from the brochure. So we all got flustered and then sir (Kim) Frondoza called the landline to confirm what was what and the brochure takes precedence.

Then the contest happened, and out of a whim I decided to go to the junior high school division even if I wasn't a contestant, because I can!

3 JHS: MORNING

Call time was 5:30 AM and I arrive 5:15 AM and no one else is there. I open my phone and use the school WiFi, and open Snapchat and stuff. Then sir Jayvee arrives, who would accompany us. Then Ralph, DC, and Carabbay, and by then it's 5:40 AM or so.



Figure 2: From left: sir Jayvee, Ralph, DC, Allen, Carabbay.

Then we wait for Allen, because of course Allen is late, and he arrives at about 6 AM. I forgot whether the alternate was Ralph or Allen, and it seems that no one else remembers either. Welp.

We ride an Uber to Leong (Hall) in Ateneo because the school vehicle is still under repair. Sir Jayvee bought us burgers for breakfast. There is not that much traffic, and we arrive at Ateneo quite early a little before 7 AM.

The first person I see who recognizes me is ate Arz (Herrera), who gives me a hug out of excitement and asks who's accompanying us. She is dismayed that Ms. Soriano was not coming, nor a teacher she knew. She is setting up the booth for shirts and encourages us to buy.

We register and sir Jayvee pays the fees. We wait around in the lobby of Leong. People soon arrive, and I'll recall them in random order.

Among the staff is Terence (Tsai), who I'm surprised is already in college, and I try to suppress that surprise. We talk, and I was like "oh, no wonder Vital is a sponsor" and he gives me that *ugh* look.

We make bets on who'd make finals and who'd win, and I guessed (Colegio de San Juan de) Letran, Ateneo, GCC (Grace Christian College), CKS (Chiang Kai Shek), St. Jude (Catholic School), and of course, VCSMS. He made the same guesses as well. Then I bet Letran would win, and he agreed.

Also among the staff is Reggie (Dela Cruz). He is holding an F sign, for room F in the elimination round. He talks to me about socialism and tries

I did ask them who wanted to be the alternate, and they decided who, and they don't remember either.

Most of the math faculty has changed since ate Arz was in VCSMS.

Apparently he's in the same batch as Farrell (Wu) and Clyde (Ang). Who knew.

really hard not to reveal the mechanics for the final round. He says the rooms will be in SEC-A, great.



Figure 3: Stefan and Steven.

Among the competitors: Dion (Ong), Stefan (Ong), Steven (Reyes). I talked to them as they arrived and many expressed surprise that I was there, and also at my hat. Dion asks questions about me and living alone, which I answer. Some more miscellaneous conversation occurs.

Eventually the individuals start and everyone gets shuttled to the rooms in SEC-A. I talk a lot to ate Arz near this time, and we talk about... shirts and sending more teams to Sipnayan. What was she, part of the marketing committee or something? I tell her we didn't have the budget for more teams and she points to the money the mayor gave vcsms for doing well in math contests and I shrug.

We also talk about coursework and she shows me her probability coursework and I say that it isn't real math. We talk about some instructors from Ateneo, and there was this other girl there and she talks too.

*and I didn't get the
name of said girl
whoops hello if
you're reading this*

4 JHS: NOON

I go back inside Leong and they were beginning to show The Croods in slow motion. Sir Jayvee was watching too. I open my laptop and check who the alternate was, and... it was Allen:

Valenzuela City School of Mathematics and Science (vcsms), Team A:

- Vincent U. Dela Cruz (DC), grade 9.
- Mark Vincent F. Carabbay (Carabbay), grade 10.

- Ralph Daniel M. Valdres (Ralph), grade 8.
- *Alternate:* Allen Ross B. Mercado (Allen), grade 10.

Ate Arz urged me to go to the Arete, which happened to have an exhibit open that day. So I ask sir Jayvee if he wanted to go and he was like, yeah. So we go to the Arete.

*the...art museum(?)
that looks like a
shopping mall and is
still under
construction*

Along the way, I see kuya Jeynor (Baylon). He gives me a surprised look and we talk a bit. He was going to class I think.

The exhibit was Mutable Truths, the Ateneo Art Awards for 2017. And the exhibits were pretty quiet, but they were pretty cool. My favorites have to be the shell made out of car parts and the recording of the sounds inside a ship, though all of them were awesome. Sir Jayvee seemed to really like the bubblegum placed inside agar.

We go out to KFC and buy food for everyone, and then carry it back to Leong. By that time it was noon, and the kids would be finishing the written round soon. So ate Arz tells me to go to Gonz(aga) and find seats early, and we do.

At half past noon I go to SEC-A to fetch the kids directly, and about ten minutes later the first batches of kids come out. Allen comes out first, since he was in room G, separate from the others, who were in room F. Then we got the others from room F and we went straight to Gonz.

The contestants were being led back to Leong in lines by the proctor, and I took the team out of the line. It seemed like there were three people in the same team who followed them out of the line too, and went straight into Gonz, and the kids were worried they just followed us. But apparently they were intending to go to Gonz anyway so crisis averted.

We eat lunch and DC and Ralph start recalling the problems as I write them down. Then, beside us, sit kuya Jeynor and his friends. Too many coincidences! Kuya Jeynor and I talk about coursework, and he shows me some complex analysis, at which I promptly excuse myself.

We walk back to Leong and spot a leaf seemingly suspended in mid-air, which was neat. It was attached by a web to a tree branch. Allen takes pictures.

Then the auditorium itself was closed, so we all went back to Arete. I was willing to bet they would take shorter than fifteen minutes through the exhibit, but to my surprise they really liked the art and took about thirty minutes. By the end, they were singing “*don’t be afraid, you’re already dead*”, which was played on loop next to one of the works. It was haunting, and DC was like “great, now I won’t be able to sleep tonight.”

There was this box-thingy exhibit outside that was apparently also art, so we decided to go. It was, if memory serves, The Resistance. Carabbay asked the person in charge, “is this a horror house” and person-in-charge



Figure 4: A leaf suspended in mid-air.

was like “no lol ofc not”. Carabbay also pointed out we would be late for the program, which would start at 1:15 PM, but I was like naaaahhh let’s appreciate art.

People could only go in three at a time and had to take off their shoes. So I went in with DC and Carabbay, while Allen, Ralph, and sir Jayvee would go in together. We went first and Carabbay reacted to the air conditioning, which was cold.

I *do not* want to spoil it since it’s such an awesome work of art. So if you have even a remote possibility of seeing the exhibit in the next few weeks or so, don’t try to spoil yourself by reading the next three paragraphs. Skip to the next section. You’ll thank me later.

Inside, the first thing to see was a long, infinite tunnel of cans and pandesal. The trick is familiar: a half-silvered mirror and a regular one, placed facing each other, and Carabbay was familiar with the trick too. There was a curtain leading further in, and I open it and...

The floor. The floor! The floor was an abyss stretching downward, and it felt like if I walked on it I’d fall down. I felt absolutely horrified stepping forward, and so did Carabbay, and he was like “you go first you go first” so I did. And the first step felt so creepy, so weird, so different. Yes, the whole floor was a half-silvered mirror, and there was also a tunnel leading to the west, and three other things to look at.

We go out after a few minutes and then the other three go in. We’re still talking about how cool that was, and how it was done. The other three come out and are similarly awed. Totally worth being a little late to the program, which we rushed back to.

5 JHS: AFTERNOON



Figure 5: Dion.

The price of being late was that the auditorium in Leong was already filled, so we sat outside and waited. I went inside and talked to Dion, Stefan, Steven, and I finally see Andres (Gonzales) as well. Talking talking talking of course.

The program happens and they made it to SFA (semifinals A). I go outside and tell them the news. Some of the people in the auditorium went out so we managed to go in and get some seats. There was a five-minute break before SFA started, and yeah.

I get out my laptop and type the questions for SFA as they come. The easy questions were definitely easy, and I was confident they'd get them as soon as I heard the question. They did not. For like, four questions.

Then they clutched third in SFA by *one point*, and when they went back I congratulated them, telling them we didn't have to go home early. Then I berated them for not getting the easy questions.

There was a five minute break again before SFB (semifinals B) would start. During this break, since I was near the judging area, I was able to talk to sir (Christian) Chan Shio, who was one of the judges. We talk about MOSC and the PMO and the IMO.

Then SFB (semifinals B) happens and I write the questions as they come once again. I spot DC working with Bryce (Sanchez) in the OMO questions, since they were in the same team. It was nice seeing them work together.

SFB concluded and the teams that made it to semifinals were exactly as I predicted, except for Pisay (Philippine Science Hs) making it instead of

*Online Math Open
at <http://internetolympiad.org/>, and both my
team and DC's team
got on the
leaderboard, having
the same score no
less.*

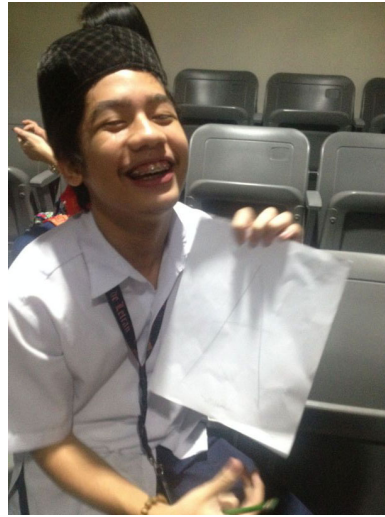


Figure 6: Andres.



Figure 7: DC and Bryce.

GCC. And the team that made it was Pisay team B, in other words, not team A; this is odd because Pisay usually puts the stronger members by their judgment in team A. I do not recognize any of the Pisay team members, neither by face or name, which is interesting.

6 JHS: EVENING

The finals happen after a ten-minute break. The mechanics, which I've explained in the documents with the questions, were then explained. It took quite some time since they were quite convoluted. The first thing I noticed was that they relied a large part on randomness, and the second thing I noticed was that they also involved a lot of risk-taking.

It is noticeable that the teams, through some hive mind, decide to finish off the questions in reverse-ish difficulty. Sir Carlo (Nerecena) was there, and we talked about the mechanics and question-writing and exam-setting and it was very interesting. I ask him about the Pisay team, and he says that they're composed of two eighth graders and a seventh grader, and the seventh grader is one to watch.

Sir (Kurt) Ang was also there, and we talk about competition math, writing \LaTeX and how he won't be in Sipnayan next week because of WMTC or whatever acronym. Then sir (Richard) Eden comes in, wearing very chill clothing, along with his kids. We wave.

On the finals: some of the questions were out-of-difficulty. The Phineas and Ferb mechanic, claiming to use "randomly" generated numbers, made the middle person sit out in the difficult and very difficult questions, and the left and right persons sit out in the easy and average questions. This is exactly what you would do to penalize a team, since the strongest member is likeliest to be in the middle.

Anyway, the finals conclude and they won fourth. Which was happened last year, and the year before that too I think. It seems like we were cursed for being fourth, since we were fourth in the semifinals last year too.

They lost by 1 point to St. Jude, who in turn was 0.5 points behind Pisay, and Letran was first with a lead of like a dozen points. Andres beastmoding again, because everyone knows he's good at fast math. This was in line with my prediction for the winner, but I didn't expect that second through fourth place would be so close. Pisay was unexpected as well, indicating to keep an eye on them in the future.

DC is of course, super bitter. He was like, "always raise the flags", in other words, always take risks. They took no risks at all during the finals, and urged us to do the opposite. Carabbay and Ralph are both sour as well.

Of note is also the fact that each member was eliminated at least once and at most twice, which isn't exactly unlikely, but not assured either.

Ah well, these things happen, and the fact that second through fourth were so close meant that they were probably pretty similar in skill.

Outside Leong, I comfort Dion. Ateneo was fifth in the finals with distance, so he was probably hurt more than our team. We talk over it.

Carabbay notices that Andres liked a post that Andrea (Cabalar) shared on Facebook, and found this unusual. He had no idea why Andres would be friends with Andrea, who is a science competitor in tenth grade from our school. So he asks me to interrogate Andres about it, and he was inside Leong, so we go in and ask him, and he doesn't know why. Whoops.

We book an Uber, and the first driver declines us because he was going home to the south, but Valenzuela is in the northern part of the metro. So we wait for another, and that takes quite some time. All the other contestants have gone home by the time we ride, and I promise the AMS people I'd buy a shirt the next week.

In the inevitably long ride home, the traffic was bad, so I told stories about how I got kicked out of home and my family and stuff like that. Then Carabbay and Ralph and Allen started opening up their own stories too, while DC was busy sleeping or something.

7 INTERIM

Not much happened in the interim.

DC talks about how he wasn't able to sleep much because the song "don't be afraid, you're already dead" was still stuck in his head. I meet with Hazel (Shi) and one of the things we talked about was the Pisay seventh-grader, who is apparently someone to watch. Jireh and Ryan and Bas tell me to meet at half past five on Saturday, and to not be late. There wasn't any class on Friday because of rain.

And then it was Saturday again.

8 SHS: MORNING

Again the call time was half past 5 AM and I arrive first. Then sir Josh arrives, who would be accompanying us, and he arrives on time. Then everyone else arrives by 6 AM and I'm not even surprised at this point. With that we were complete.

VCSMS, *Team A*:

- Me, grade 12.
- Jireh Emmanuel C. Gumaro (Jireh), grade 11.
- Ryan Christopher L. Santos (Ryan), grade 11.

- *Alternate*: John Patrick A. Bas (Bas), grade 11.

Ryan tries to get a Grab and asks if we'd get a four-seater or a six-seater. The six-seater is more expensive, so he chose the four-seater. The first vehicle probably got lost looking for the gate of VCSMS. Then the second vehicle just got lost. This takes around fifteen minutes of waiting, and in that time we eat the cheese pandesal sir Josh bought for us.

I was pretty conscious of budget because Jireh handed me the budget, which I passed on to sir Josh.

Finally, the third driver found his way to the gate, and looked at the five of us and was like "you sure you wanna ride a four-seater" and we were like "yeah". So we rode, and it was a Bad Decision Kinda. We were pretty crammed in the back.

Thankfully the traffic was light and we make it to Ateneo relatively quickly so our suffering in the back was not for long. The bag of cheese pandesal is still a third of the way full and is being passed around but no one seems to want to eat any more so it's just pretty awkward.

At Leong, Arz is the first to greet me and is *still* asking me about shirts and where Ms. Soriano was. She said Ms. Soriano said she'd go to Sipnayan but she didn't whoops. We talk a bit, of course. Then we register and pay.



Figure 8: Matthew and Luke.

The auditorium was still closed so we went to Gonz to "eat breakfast" except none of us actually ate since we were all pretty full from the cheese pandesal. I teach Jireh how to tie a necktie, since he has to attend a debut later. So after a few minutes we walk back to Leong.

Back at Leong the auditorium was still closed, but there were other people now. I spot Agnes (Robang) and say hi and that's the extent of our

conversation. Then Elijamin (Claveria) arrives and he's not even wearing the Pisay uniform like the boss he is and I squish him. We swap hats. It doesn't fit us.

I was talking to ate Arz while looking at the shirts and all of a sudden Steven (Wang) comes and looks at shirts with me. He buys one and the shirt-selling people are all happy. Around this time Leong was opened so we went in.

Several other people came in some order I can't exactly recall. Anyway I see Terence again and we say hi, and ate Arz told me Reggie wasn't coming that day.



Figure 9: Life goal: take a picture of Kyle smiling. Check.

Then Kyle (Dulay) arrives and we start discussing the teams in Sipnayan. Particulars like who would have a good chance of winning, who'd make finals, and so on. He says that the field has changed without Farrell and Clyde. We generally agree that the team to watch for will be DLSU (De La Salle University Integrated School), because of both Albert (Patupat) and Luke (Bernardo) being on the same team.

Shaq (Que) arrives and comes in our circle and I blurb about the finals mechanics from last time. Eventually we go inside Leong.

So there was a circle of Shaq, Albert, Luke, Agnes, Elijamin, Matthew (Isidro), Alex (Go), Raffy (Santiago), some other people I'm probably hurting the feelings of since I can't remember, sorry. And we were all talking about college apps and it was cool hearing about how they were talking about recs and forms and essays and interviews.

Agnes asks me about Karthik Yegnesh and how I knew him, and I said I met him in ISEF and he had this super pro project. She pretty much



Figure 10: Back, from left: me, Steven, Albert. Middle, from left: Alex, Shaq, Luke. Front, from left: Agnes, Elijamin, Matthew.

concurred that he was super pro and that during RSI he worked on braid theory or something.

Then we take an awesome picture. Then we go outside again to line up to get shuttled to SEC-A for the individuals.

9 SHS: INDIVIDUALS

So we get shuttled and we're in room F, while Bas, being the alternate, is in room G. In room F the only other team I recognize is St. Jude's, and of them I recognize Matthew (Isidro) and Jinger (Chong).

Before the exam began we went to the restroom, and the restroom on our floor was filled, so Matthew and I went to the second floor restroom. Along the way, we see Terence standing outside of the room he's in proctoring and Matthew talks to him. Then Luke passes by, yeah.

The written round itself was quite unremarkable. Aside, perhaps, from the "Righteous Minimum Query", a thinly-veiled attempt to describe a range minimum query, familiar to anyone doing competitive programming. The problem was asking for the sum of the RMQs for each possible subarray of a sequence, jeez.

I managed to solve everything except Very Difficult 1, which was a stupid inequality. Then the exam ended. I compared with Jireh and Ryan, and I realized I made one or two off-by-one, not too bad. Then I compared

to Matthew, who compared with Jinger, and then I realized I made more errors. . . more off-by-ones, some by a factor of two, one a factor of four, and a few errors were just plain arithmetic.

It wasn't just me, at least. Matthew also had his share of errors. For example, in one question he thought the diameter was 8, when it was the radius. In another question, I thought the diameter was 2, when it was the radius. Whoops. I haven't done short-answer math in too long, too long, I say.

10 SHS: LUNCH

We go directly to Gonz, because why not. We spot Bas and take him to Gonz, then I go back to Leong to get sir Josh.

*Do you write it with
a space in the middle,
like Bon Chon? No
idea.*

I spot sir Josh and he bought Bonchon. I counted, and there were only four sets, and I ask where his was. He says he already ate there to reduce the stuff he had to carry. Oh.

We walk back to Gonz and sir Josh tells me I should have just texted him or something. Exercise, I say. We eat, and sir Josh goes out to roam Ateneo.

While eating, the St. Jude team eats beside us, and of course I talk to Matthew. We discuss who would likely be top scorer, and I placed my bet on Kyle or Albert, he agreed.

Then Albert and Luke walk by and we compare answers as well. Albert seems to have made quite a number of arithmetic mistakes, which raises my confidence that Kyle would be top scorer instead. Luke informs me that Albert got the inequality, and tells me that it was cyclic quadrilaterals. That was pretty much the spoiler to the problem, and then I facepalmed.

After eating, we walk back to Leong. We spot sir Josh and invite him to go to the Arete with us. I predicted that Jireh, Ryan, and Bas would only go around the exhibits for about fifteen minutes.

We make it to Mutable Truths, and surely enough, they take thirteen minutes by the clock to loop through the exhibits. Notably, the "don't be afraid, you're already dead" loop is quieter than it was last time, which is definitely a good idea.

Then we go to the box thingy, and there were two or three groups in front of us so we wait a few minutes. Bas searches up the don't be afraid, you're already dead song on Youtube and plays it. Jireh, Ryan and Bas went in the box thingy first, then I went with sir Josh.

They're notably amazed, because well, who wouldn't be? It is pretty awesome. Sir Josh talks about how something like the box thingy should be a project in vcsms. Like ask students to do something similar to the floor in the lobby of school, to creep people out. That got lots of laughs.

We arrive to Leong and it's still closed. I look at the shirts and realize I have to withdraw some money so I could buy some shirts.

Then Steven walks in and asks me about the written round. He says he made a lot of arithmetic mistakes, and asks me who I thought would win top scorer. I told him all the information I got. Then I ask him if he would go with me to JSEC to withdraw some money, and he was like okay.

It seems that Steven walks in whenever I look at shirts.

While going down the stairs from the Leong lobby, we meet Albert and Luke, and they tell us they just went from JSEC. Then Luke starts dragging Steven away from me, saying that I was bad luck to be around. I drag Steven back and Luke relents, lol.

So we walk to JSEC and we talk about various things, like the mechanics for the finals, college, because everyone's talking about college, and competitive math in general. Then we walk back to Leong.

Walking back, near the Rizal library, we spot Shaq. He's easy to spot from behind because he has this patch of white hair near the base of his neck. Anyway, we walk up behind him and start talking loudly and then he notices us.

Then a wild sir Eden suddenly appeared from out of nowhere. Shaq asks about what sir Eden would do in Sipnayan, and sir Eden says he's a judge. Sir Eden comments that he's finally seen Shaq in uniform. Shaq comments on the fact that both sir Eden and I were wearing hats.



Figure 11: Low-quality picture.

We went inside Leong and I start talking to people, of course. There was a circle of Kyle, Luke, Albert, Matthew, and Shaq joined, and some other people I'm forgetting and I'll probably hurt the feelings of, sorry sorry whoops bad memory. Shaq takes a bunch of selfies using my phone. And then when the program started we were all seated in the same row.

11 SHS: SEMIFINALS

So yeah, the program started, with a prayer and the national anthem.

Then the top scorer would be announced, so I bet Kyle that it was him. He didn't seem to believe it was him and believed it was someone else. Anyway, the top scorer was announced, and it was... Steven!

Wow. None of us were expecting that. So we gave him thunderous applause and cheering. And then Matthew was like, Kyle, you should've bet. Lol. Not like any of us would bet actual money on math contest results, that'd be preposterous.

Then the judges were introduced, and everyone in our row cheered for sir Eden when he was introduced. Because, you know, everyone's a fan of sir Eden. He shoots a look in our direction and acknowledges us.

Then the teams who made the semifinals were announced, and in SFA was us, then GCC, then Uno (HS), then Pisay. Whoops. I shot a look to Shaq and Kyle, and they were like, "wait, we're in the same semifinals?" and I was like "yeah". By pigeonhole, one of {VCSMS, GCC, Uno, Pisay} wouldn't make it to finals, so I started saying my goodbyes to them. You know, we'd leave early since we wouldn't make finals. Rip.

Then SFB teams were announced, with St. Jude, Xavier, the Pisay team with Tayan (Gelera) in it, and at this point everyone we were expecting to make semifinals were announced except for DLSU. Luke and Albert. And then they were the last team to be announced in SFB, hooray for suspense.

A five-minute break came before SFA and I talked strategy with my team. It was pretty unremarkable, aside from the fact that Pisay was the only team that got A5, and that they missed D3, which I totally expected them to get. Kyle tells me afterward that they messed up the quadratic equation in D3, whoops.

So Pisay is first in SFA, followed by... BSM (British School Manila). And then we clutched third by a point or two, like the junior high team did.

We go back up and Steven is dismayed that his team, Uno, didn't make it. I hug him and say sorry. Matthew consoles with the fact that he was top scorer and he'd go home with a medal. Welp. I didn't manage to talk to Shaq after SFA.

Those of us who competed in SFA went to watch SFB. We pretty much agreed that SFA problems were out-of-order in difficulty, for example, D4. In SFB, the guys I knew were DLSU, St. Jude, Xavier, and Pisay, and by pigeonhole one of my friends wouldn't make it. Why does it have to be so painful?

While spectating SFB, I type up the questions. I make a new friend from the DLSU team, Lance. Hi Lance! We talk about the problems as they come,

and it turns out he's relatively new to competition math, so Steven and I talk about the solutions to a few of the problems.

E1 was asked, and Kyle and I agreed quickly there was no solution. Then it was revealed the answer was $\sqrt{2}$, and both of us were like, what. What. What even. Kyle facepalmed.

Matthew and Raffy asked why $\sqrt{2}$ wasn't an answer, and Kyle explained that if you applied the same process when it was equal to 2, you'd get the same answer too, so it couldn't be equal to both. In this case, letting $x = \sqrt{2}$ would make the answer 2, which could be checked by calculator. Kyle was expecting people to complain. But no one did.

At A5, Kyle asks me why I was playing with a bunch of marbles. Then D1 was the first explicitly calculus question, asking for the limit of something. Steven, Shaq, and Kyle talk about how it wasn't that difficult, and we agreed. They said it could be answered by just factoring.

Then Raffy and I were like, what, L'Hôpital. And they looked at us weirdly and we said L'Hôpital was easier and we high-fived each other. Yeah. Then Kyle started asking about how it was pronounced and none of us there could agree. Whoops.

SFB ends and it's St. Jude that didn't make it in my pigeonhole. Sad. That meant the finals would be us, the two Pisay teams, DLSU, BSM, and Xavier. Some discussion occurs, and then the finals start.

12 SHS: FINALS

One of the things that I distinctly remember was Albert asking me something. I'm not exactly sure when it happened, but it was either before or after the finals. He said he read my report for GMATIC, where I mentioned that I joined contests for the people. He asked me whether this was really true.

*lol people actually
read these hahaha
how preposterous*

And I answered, yes. I really do join math contests for the people I get to meet, and that's the main reason why I join. Okay, I'm going to stop being touchy-feely now.

Then Albert was like, well, Kyle joins for a different reason. And Kyle was there, and I was like, "let me guess, money?" And Kyle totally agreed, and said there was another reason. I asked what, and Kyle and Albert were like nope nope nothing nvm. Weird.

Anyway, here are the notable things that happened in the finals, roughly in order. Abbreviations are as in the questions file that's uploaded on my site.

- Our general strategy was to take all the risks. This is in light of DC's advice. This turns out to be bad for us. Then it turns out to be good for us. This cancels out. You'll see later.
- Once again, the difficult questions were generally chosen before the easy questions. Except no one seemed to pick the FOR questions early on.
- SS VD: The first question. In the scoreboard the clusters could be seen, and we were mostly with Pisay team A and DLSU, rip. Needless to say everyone in our cluster got this correct, while the other cluster only had two teams correct! Unfair!
- PF VD, PF D: I was eliminated both turns, being seated in the middle. We were actually thinking about seating Jireh in the middle to avoid this. Anyway, a lot of other teams decided to sit out the people in the middle. Even if any of us were there, it wouldn't make a difference – no one got both questions.
- GF VD: We were debating whether or not to choose Dipper, and I was like, "Come on! Let's take the risk! Let's see what happens!" and we were the only team that did. So I was like, bring it on, let's see what happens, and my teammates were looking me like I was crazy.

The question was solids of revolution, and we were pretty pressured because of the potential -8 penalty. And then we were just finished calculating the volumes of the cone and frustrum when time was called and we didn't get it right and no one got it right and we got a -8 penalty and dropped to fifth place with distance.

The only team behind us was Pisay B, and I shot a look at Tayan and was like, welp, at least we weren't last. Tayan was like, at least we didn't take stupid risks. I gave my teammates a pep talk, because they were super dismayed, and I was like, "that's totally okay guys come on we'll catch up!" but I was rotting deep inside don't tell anyone pls

- PF A: Jireh was out, and Ryan and I were solving. Then I brain farted and could not solve correctly, and then five seconds left, Ryan says 256. So we just write that and wow, that was right! Jireh got 256 too, lol. If I was the one sitting out, nothing would've changed.
- GF A: Everyone chose Dipper. We were counting orbskie numbers and we counted 24. Then there was one second left, so Ryan wrote 24 and Jireh and I were like, "no! Probability!" but it was too late, time was



Figure 12: Not funny.

called, and Ryan was like, “wait no it should be over 360” and the board was raised.

We got weird looks from the judges, and were super worried. But apparently no one else got the correct answer as well so it was okay. Afterward, I wrote on the whiteboard “so likely the probability is greater than one.”

- **ss D:** Behold as I forget the chromatic polynomial of a cycle when I need it most.
- **GF D:** A lot of people picked Dipper, since the category was an innocuous “areas”. Then we were the only team that got it right. And *wow*, that felt awesome. We jumped from fifth to second place. I wrote on the whiteboard afterward, “*natuto na kami*”.

And how did we solve it? How else, but assuming. The maximum was probably when $BC = CD$, so we assumed that, used Ptolemy’s, got that it was a kite. The details fit perfectly and the answer was integral, which confirmed our guess. And we were right. Hooray for physics-style assumption!

- **PF E:** Ryan was out. We were waiting for when Ryan would be out so he could go to the restroom. But by the time **PF E** was chosen, he didn’t have the urge to go any more. It is at this point where I noticed that the “random” numbers for **PF** were exactly the same as last week’s.

- JN E: This is funny. None of us read *distinct* and got 112 instead. Then I wrote that it was $2^3 \cdot 7$, so we wrote 8. Then Jireh was like, “wait, shouldn’t it be $2^4 \cdot 7$?” And I was like “oh right, it should be 10”. And then time was called, boards were raised.

And then 8 was right and I was like *waaaaat* and then I read the question again and Ryan pointed out *distinct*. Two wrongs make a right.

- A bit before this, Jireh wanted us to pick a FOP question, when it was becoming clear that no one was picking FOP questions. I berated him for doing so, telling him that there was unspoken non-existent agreement to leave all the FOP questions last.

And the FOP questions were indeed left for last, and I was like, “great coordination everyone!” The audience seemed to be amused.

- FOP D: We were deciding whether or not to wish. I was looking at Pisay B to check if they were going to wish, since their team was the next to pick a question. If they didn’t wish, and some others did and got penalized, it would be to their advantage to pick FOP VD. I couldn’t tell, so we wished anyway. Pisay B didn’t.

So we were adding the last two arctans. Jireh flipped a sign in the denominator. Our numerator was right but our denominator was wrong, whoops. Looking around, DLSU got it right but flipped it, so we weren’t the only ones who were close. No one got the correct answer. Surely enough, Pisay B picked FOP VD.

- FOP VD: No one looked like they had any idea how to solve the problem, so about a quarter of the way through I stopped giving it a serious attempt. I asked, okay, let’s make a guess.

We knew b and c were primes, so we thought of primes related to 4, and we thought 2 and 3. Of course, since this was a probability, b would be 2 and c would be 3. Then d would probably depend on the number of islands, 2017, and since 2017 would be too obvious, we wrote 2016.

At this point one of the judges was looking at us with utter incredulity at what he was seeing. He was even slightly standing from his seat to look at what we were writing.

We were still arguing about a , to the point where Jireh and Ryan played rock-paper-scissors to decide whether it would be 2 or 3. Time was called. The answer was revealed.

It was $1009(2/3)^{2016}$. And everyone was looking at us with utter incredulity since we were pretty close. Our guessing powers were super close, lol. No one got it right anyway, so being penalized did nothing.

- FOP A: We wished. We didn't get it right since we thought there was only Cosmo and Wanda, and totally forgot there was Poof. So we messed up the ratio and got penalized next question.

We looked closely at the scores. We dropped to fourth, 0.5 points behind the third place team, 1.5 points behind the second place team. We were penalized next question, FOP E, a 2 point question, meaning we would make 1 point maximum.

If we got the question and the third place team didn't, we'd win third. But we looked at the third place team, and it was... Pisay A. I started consoling my teammates, but they still couldn't accept it, still wanted to think there was a chance.

- FOP E: There wasn't. We lost.

13 SHS: EVENING

We were fourth, losing by 0.5 points to Xavier. Pisay A had a lead of 1 point to Xavier, and DLSU had a dozen-point lead or so. It seemed that the curse on VCSMS, being fourth in Sipnayan, has continued.

Jireh and Ryan are both dismayed, totally sad at the fact we lost. I... wasn't feeling that sad myself, actually. I felt good. So I tried to comfort them with the fact that we finished really close to the second and third placers, that much of the reason we lost was random chance, perhaps hubris.

As soon as the point totals were finalized, I shouted, "woohoo, we lost!", which got scattered laughs. I got Jireh and Ryan to crack a smile at this too, even slightly. I hugged both of them and told them we did a great job that day. The top three teams were announced and we applauded.

We then stood up from the stage, and I went to Kyle to congratulate him. I attempt to hug Kyle. He was in my arms, and then all of a sudden he squats to avoid the hug and he was like *nope nope nope nope nope*.

Sir Eden looked at me and was like, "sayang naman". Then he was like, "but you had fun right?" And I was like, yeah. I did have fun. I had lots of fun.

I congratulate Albert and Luke and Aeram (Albo). Then I congratulated Tayan and Elijamin, and then I congratulated Alex.

We stayed to finish the program, even though we were talking with each other the whole time pretty much. Bas wanted to leave, but we told him

it was only polite to finish the program. Jireh was trying to get back in Valenzuela in time for the debut he was going to attend, which he probably will be late to either way.

The program finished after some picture taking and they started playing music. I was just so happy that time, I was just dancing to the music. Kyle was too, and Albert was there and he was like, totally grossed out. "I would not want to be with you in a party", he says. Please.



Figure 13: Insert sir Eden.

I forgot who got the idea, but someone gets the idea of taking an MOSC picture with sir Eden. And we did. And it was awesome. It felt awesome.

The rest of the team drags me out, saying they'd already booked a Grab. So I say goodbye to everyone, telling them we'd meet in PMO areas.

I suddenly remember I had to buy a shirt, so I did. Then some of the AMS people congratulated me, and I talked about how we were fourth and lost by half a point. I can remember two names, so I'm going to mention you guys and will have to apologize to everyone else since I didn't see your nametags: hi Kenny and Jeong Yoon or um, however your name was spelled. You guys are pretty cool.

*Whoops, I only got
two names and
forgot how to spell
one of them.*

Outside, while waiting for the Grab, I talk to Elijamin and Kyle. We talk about politics and social science and how it was taught in Pisay. Then suddenly the conversation was about quantum mechanics. Then it was about college apps. I don't know, those types of things, those kinds of conversations, that's one of the things I like most about math contests. They leave.

Alex and Terence were talking, so we talk. I congratulate Alex and say I'm still kinda miffed about being fourth. Alex gives me a hug, he's a really

nice guy. The three of us talk about college. Then Bas calls me, saying the Grab has arrived, so I say goodbye to them.

We go home. Jireh is definitely going to be late for the debut he was going to attend, since the traffic was really bad.

Jireh and Ryan and Bas and sir Josh still couldn't get over the fact we were fourth, and lost by half a point. Ah well. That happens.

We're back in Valenzuela and we go separate ways.

14 CONCLUSIONS



Figure 14: Bonus Kyle picture!

I have to give a mention to Albert here, because he really made me think about why I joined contests. It's true that part of the reason is to enjoy the problems, and I really did notice that I enjoyed the problems, the thrill of the competition, the feeling of being somewhere away from home. But more than that, I enjoyed the people. Talking to people. Being with people.

One of the things I told myself, after the first time I attend MOSC, was that I wanted to grow up being friends with people like them. Since then, I've looked forward to meeting them, seeing them. We talk on Facebook, thank goodness for Facebook, we talk about school and math and college and homework and video games and politics. Thank you.

Thanks to those who actually read this, because I didn't realize you existed recently. Even if only one or two other people appreciate this, it'd be great. Thanks to vcsms, and by extension the city government, for funding. And to the AMS for organizing Sipnayan and being awesome.