
Coaches' Roundtable Q&A

A survey of strategies that various clubs use to solve common math club problems (2009-10)



1. What are you using to coach your math club - a textbook, online materials, or other resources?

- a. We practice using mainly practice tests. Occasionally, our assistant coach will give us math lectures on common topics (i.e. bases, combinatorics) that will be useful to everybody, which we find to be very helpful as well. - Interlake
- b. We use practice problems and chapters from the Art of Problem Solving Series (both the Volume 1 Basics and Volume 2 Beyond). Art of Problem Solving is a great resource, but isn't a substitute for using practice tests. - Redmond
- c. We use most of our resources from online websites, which will provide practice tests as well as puzzles and other various math problems. Once in a while, we'll do student lectures and use problems from books such as Art of Problem Solving, Problem Solving Strategies, or Mathemagic. - Skyline
- d. Once in a while, our club members will prepare presentation topics to center a meeting around, but we use mainly practice tests. – Newport

2. What strategies do you use to keep students motivated and on task?

- a. In order to keep our members content and to help relax during club meetings, we offer them food. As a motivational tool we have a system called "Pi Points". Basically, Pi Points measure a student's contribution levels to the club, and students will get certain amounts of points for going to practices and competitions. Once students earn enough Pi Points, they will receive a varsity letter for Math Club. - Newport
- b. A lot of motivation comes from peer pressure, and especially a fear of Kaiying. We also have motivation to beat the freshmen, since many of them are scarily good at math. Once students become self-motivated, the rest will automatically come. Be aware of distractions, though. Food, which results in good motivation, means bad concentration. - Interlake
- c. One problem we had in the previous years is that many students felt they weren't directly learning enough from our Math Club. As a result, we focus a lot more on peer-to-peer teaching now, and we will start off with an interesting topic every once in a while to keep students awake. Our club is very social, however, and being on task can be a problem. I think we have a good balance of both socializing and working. – Skyline

3. What types of activities do you incorporate into your club?

- a. For fun, we love to play Mafia (a social group game). We also like to use clicker response questions on our SmartBoard, and play the card game 24 for warm-ups. - Newport
- b. We like to incorporate SmartBoard activities into our club meetings. We held a Pi Day Fundraiser to raise funds, as well. - Interlake
- c. Sometimes we'll play math related computer games. - Redmond
- d. We like to play poker, participate in game/puzzle days, movie days (21), compete in mock competitions, and tutor during meetings. – Skyline

4. What does your typical math meeting look like?

- a. We'll start up with a challenge problem, and then divide into groups for practice. We like to tally each team's points on the board to stoke competitive spirit. - Skyline
- b. We dedicate the first fifteen minutes for people to socialize and get food and drinks. We usually participate in practice tests or do questions on the SmartBoard. We'll write our answers on the board once we get them. However, we sometimes have to shout to have people heard. - Interlake
- c. Before a competition, we'll divide up into groups, but usually we put problems on the board and Sam and I will go over them. Simulate the competitions, mental math, Sam brings in magic square s for us to do –Redmond

5. Do you run any additional meetings? Any summer meetings?

- a. This is humongous for Interlake - we'll have practices on Wednesday afternoons or on the weekends and we will prepare intensely before a competition. We'll have a smaller group of more dedicated and motivated people with time. We also have math club two days a week. Most the underclassmen go to both meetings, and we have extra practices to avoid schedule conflicts. - Interlake
- b. Once in a while, we'll have extra practices. Sometimes, the teams will arrange practices on their own. We also have extra meetings to prepare for the competition we plan to host. - Newport
- c. We hold board meetings for planning purposes, and we plan to host additional meetings. Last year, we hosted both summer and weekend meetings. – Skyline

6. How do you select students for competitions?

- a. We can tell which students are motivated and we will base our attendance on which students really want to go. We allow teams to choose to be with their friends, and we write all information on the whiteboard for people to discuss. We make sure that if people don't pay early enough, they don't go. This prevents financial conflicts. - Interlake
- b. We let people who are interested go. We usually choose our own teams, and our club advisors have a say in certain situations as well. It is better to pair people of similar interests and ability levels together so that they can collaborate together. - Skyline
- c. We usually let anybody who wants to go attend the competition. For the ones that are selective, we'll take the top scorers. - Redmond
- d. Everyone goes. Once we decide who has paid, we write the names of who has paid on the board, and students will circle who they want to. At some competitions, we will suggest teams and change them if people want a different arrangement – Newport

7. How do you get students in Math Club to commit to competitions?

- a. If students who have signed up in advance drop out, they'll have to pay a late fee. Unfortunately, competitions at Skyline are completely subsidized and some people drop out as a result. - Skyline
- b. People have to pay for each competition they'll have to go before we register them, and if they drop out then so be it. - Interlake
- c. For competitions, we use our Pi Points system as an incentive. Attending meetings is worth 2 points, and each competition is 5 points. You need to pay ahead of time, and you're not registered until you pay. – Newport

8. What strategies did you find successful in starting up Math Club?

- a. Having a close group of friends that I knew would be dedicated and love math. Core group of students. We didn't want any cliques. Use flyers. Parents talk to parents, so utilize the parent network. We had one student who was strongly opposed to joining Math Club at first, but once we persuaded him to join, it quickly became one of his favorite activities. - Interlake
- b. It's good to have a core group of friends - the ones who are coming in the beginning. Competitions do motivate people. We try to explain what competitions are, and that got a lot of people into it. - Redmond
- c. The founder has to realize that they will have to put a lot their time and effort into it. You have to find a teacher who will support you, and you need an active advisor. If you miss anything, the whole foundation crumbles. I can't stress the fact enough that you need to be assertive, don't be put off by school administrative requirements. - Newport
- d. Advertise to people using interesting flyers, and hand out information sheets at curriculum night. The word also spreads quickly by word of mouth through members to friends who will want to join the club. – Skyline

9. What other services/incentives do you provide for your club members?

- a. Our Pi Points are a strong incentive, since it is a good opportunity for people to win prizes and get their varsity letters - Newport
- b. We provided extra credit for certain events last year. – Skyline

10. How do you utilize student officers and leadership?

- a. It is sort of difficult, because not all members are perfect. We had to take away a few positions from people that weren't doing enough. - Interlake
- b. Organizing competitions having team captains to oversee groups of people during the competition help very much - Redmond.
- c. We split up competitive responsibilities among team captains, to keep track of contact information and to watch over their own teams. We try to delegate our officer tasks as possible early in the year so that officers can get used to their responsibilities throughout the year, and do them well. It's really important to elect the most dedicated and punctual officers possible. - Skyline

11. Does your school have any fun traditions?

- a. We like to play Mafia. - Newport
- b. We sometimes have meetings at Starbucks in addition to the activities we listed above (puzzle and movie days). Our team also designed T-Shirts this year, which we're pretty proud of. – Skyline

12. How do you arrange transportation for field trips?

- a. Everyone goes on their own, and it works out pretty well most of the time. - Inglemoor
- b. We had a bus that we shared with other schools. We filled the bus, so the cost per person wasn't actually too bad. - Newport
- c. Usually we just have private transportation. We'll have regular parent drivers take designated students. We rode on buses as well, only cost around \$10 per person. - Interlake
- d. One potential thing to consider is have a designated officer be in charge of transportation. It is also a good idea to have a sign-up sheet well in advance. We relied heavily on parent transportation in the past, but with many parents having busier schedules it's getting more difficult to arrange parent carpools. – Skyline

13. What are your major sources of funding?

- a. We held an iPod fundraiser for two years consecutively. It's important to be assertive – otherwise people simply won't be as interested in your products! - Skyline
- b. We have an annual Pi Day Fundraiser that we sold slices of pie to celebrate Pi Day (March 14th), which was pretty successful. We also had Microsoft sponsorships. It also helped that people paid for competitions. - Interlake
- c. People pay for their own competition registration fees. Other sources of income came from our corporate sponsors, our Knights of Pi Math Contest, the Bellevue Schools Foundation, Camelot Club, ASB and PTSA. - Newport
- d. Students mostly pay for everything, and the PTSA covers the cost of AMC because we open it up to the whole school. - Redmond
- e. AMC is funded by our school and is separate from Math Club since nearly the whole school takes the AMC. For math club we get about \$200 per USAMO qualifier from our school. – Inglemoor

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