

## Team Strategies

An outline of team strategies for various math competitions

### **Team Test:**

- The Grid Strategy
  - o At the contest, make a grid and make the horizontal variables the name of the individuals on the team, and make the vertical variables the numbers 1-10. This way, we can record our answers as well as compare them.
  - o Split the team into two partnerships. Partnership 1 does problems 1-5, Partnership 2 does problems 6-10 (or you could split it up odd-even, it does not matter). Member A does problems 1-5 numerically in that order, and Member B does problems 5-1 numerically in that order. A and B make up partnership 1.
  - o Also on the team test, make sure that if you do not know how to do a problem, let your partner know, and if they do not know how to solve it, let the rest of the team know. It is crucial that we at least attempt all the problems before the seven minutes warning.
- 15 minute timing.
  - o You only have 15 minutes to do the entire team test, so use it wisely. Have one person use a watch to time the test, and set it to a seven minutes left alarm, and another person set to a two minutes left alarm (or something like that). At the seven minutes left alarm, the team is officially now open to discussion within and between the partnerships. Discuss problems that have a conflict. If there are any unsolved problems, then get those done ASAP.
  - o Do not argue when we are taking the test. Explain conflicts in a clear voice to save as much time as possible.
- Other: label units carefully and try to make your work as neat as possible without using any extra time, in case answers among members conflict

### **Pressure round (from Math is Cool Competitions):**

- Strategy A – Pick what you like
  - o This strategy works in a clever way. All team members browse over the five problems and choose whatever they like. Remember to be lenient and not waste time. Cooperation is important
  - o Keep in mind that every two minutes there has to be an answer turned in. If there is a problem that nobody likes, turn it in first, since the first problem turned in (regardless of number) is worth one point, and each one after that successively is worth one more point. Ex: If question #4 seems to be impossible, then turn it in first.
  - o The same goes for vice versa: If there is a give-me problem, turn it in last so it is worth five points, and in the meantime go to work on another problem

- Strategy B – A Mixture of Collaboration and Individual Work
  - There are four people on the team. Roughly rank order the difficulty level and solvability level (the chances you estimate that you will be able to solve the problem in two – four minutes). Two people partner up to work on a medium difficulty problem, with the goal of turning it in first. The two other people work on problems individually, with the goals of turning them in next. Make sure that all knowledge is shared or written down immediately (ie: how to solve a problem).
  - That was step one. After the first problem is turned in, see if there are any other problems done. If so, one person (who has just turned in the problem) will double check it with guidance from the team member who just solved the problem (call them Pair A). The other person either partners up with the person who has been working all the time, or gets to work on another problem.
  - Once Pair A has finished, repeat the whole process.

### **College Bowl:**

- The Winning Strategy
  - Brief overview of rules: Since you have 45 seconds to solve each problem, this requires that you work individually. If you buzz in before the other team, you have five seconds to answer. If you miss the five seconds or if you answer wrong, then your team does not get the point, plus no one from your team gets to answer for that problem again (basically, do or die). The other team has the remaining 45 seconds to solve the question.
  - What happens if you get an answer: check with your buddy next to you (very quickly), and if they got an answer and it's the same as yours, then ding right away. If they did not get an answer, but you are more than 70 percent sure, buzz in right away. If you are less than 70 percent sure, wait for a while. Hint: do not take up too much time deciding how sure you are! If you are sure you will know. Do not be afraid to “pull down the team”.
  - This basically requires just a lot of accurate quick work and common sense.
  - What happens if the other team misses it: If the other team misses it, they either did it right away or beat you in the “short-long-run”. If they missed it right away, then have quick discussions. If they beat you in the “short-long-run” but got it wrong, be quick and beat the clock.
  - Keep on working, no matter whether or not the other team buzzes in. Trust me, it will not hurt anyone except for maybe the other team if you win.

### **Mental Math:**

- Predetermined Ordering
  - Mental math questions are split into four rounds for each member of the team. The first round is usually the easiest, and the last one is usually the hardest.
  - Thus, predetermine your ordering to help things run smoothly at the contest.
  - Listen to the question carefully (it is read twice) before answering.