

“So you want to run your own Math Bowl or, better yet, get someone else to do this? Here’s a guide for you.”

1000* Years of Math Bowl at Lafayette College

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Ok, here’s your first toss-up question. You must buzz in, and, please, no conferring with your teammates!

Q1. For a quick ten points, find two positive integers whose sum and product are prime.

Too easy? Well, how about this one?

Q2. The numbers from 100 to 1000 are written down. How many times does the number 6 appear on this list?

Tim Fargus was able to answer this one correctly within the ten second time limit. On the other hand, it would help to know Lafayette’s math faculty to answer the next one:

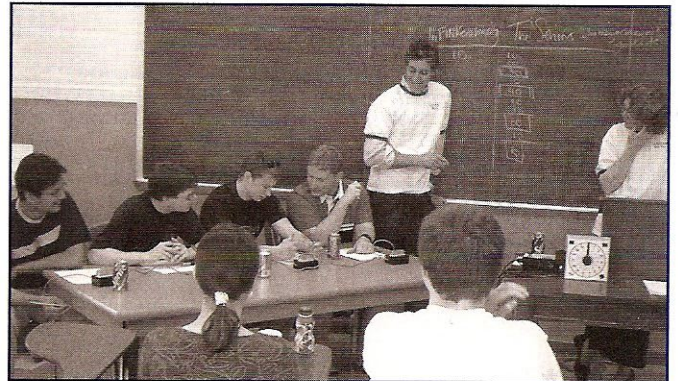
Q3. What member of Lafayette’s math department can have his or her last name rearranged to spell SETS ON FIRE?

Yes, math trivia meets *Jeopardy* every May at Lafayette College. Using a format similar to the College Bowl competition, we sign up four teams of four students apiece, all with the goal of winning a Math Bowl Champion t-shirt. Correct answers to toss-up questions earn you ten points (buzz in early if you want, but lose five points if you’re wrong), and they also earn your team a chance at a bonus question, usually worth twenty points.

With four teams competing, we run the entire tournament over the lunch hour, attracting students with the usual bait: pizza and cookies. We play two semifinal matches of eight minutes each, then play the finals with two seven-minute halves.

Math Bowl is one of the highlights of the year for the students. They really get into it, cheering (and booing) their friends. It’s intentionally and unintentionally funny, especially when students show how little they know about the faculty (where they went to school, the titles of their papers, etc.). For example, when asked to name all the department members who are married to mathematicians, one student said, “Prof. Gordon and ... his wife.” Since she happened to be judging and keeping score, she declared no credit for the response. (The two people under discussion are the coauthors of this article.) One year, a dispute over scoring led an aggrieved team to

* in base 2



make their own t-shirts in protest. Their shirts listed the top ten reasons they had really won. Last year, when one senior, choosing his teammates wisely, finally won, he told us, “It took me four years, but I finally got a t-shirt!”

As in college bowl matches, the teams use a buzzer-lockout system; as soon as you think you know the answer, you can buzz in, locking out all other players. If you’re wrong, the other team gets a shot at the toss-up. If you’re right, your team gets the bonus question. Teams can confer on bonuses; when they disagree among themselves, it usually generates some fun. Here’s a typical bonus:

B1: The year 2003 is special because 2003 is a prime number. For 10 points apiece,
a) What was the last year before 2003 that was prime?
b) When will the next one be?

So, you want to run your own Math Bowl or, better yet, get someone else to do this? Here’s a guide for you (or them):

1. Sign up the teams in advance. We usually get the sixteen slots filled in about a week before the competition. (Earlier than that is too early—the students forget. Later produces too much anxiety for us.) It helps to talk to students individually and in small groups to make sure you have four teams.
2. Write the questions. We use:

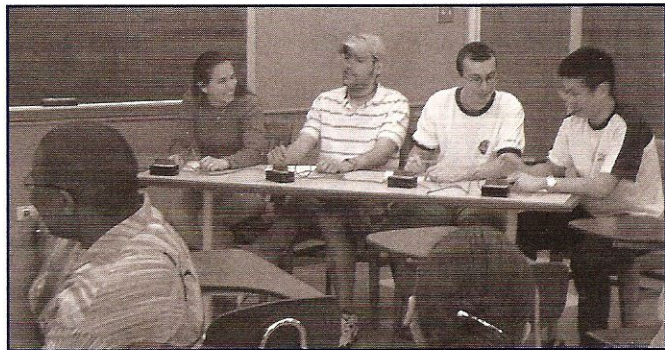
Pop culture: Movies about math or that use math words in the title (*The Matrix*, *A Beautiful Mind*), cars with mathy names (Infiniti, Maxima, etc.), TV shows (*The Simpsons* is always a good choice), and so on.

Local culture: Match the faculty member to his paper, or graduate school, or previous employer, or spouse or first language.

Mathematics: Arithmetic, History, Number theory, etc.

It makes sense to do this in advance. Some year, we might actually take this advice instead of leaving this for the night before. Of course, after four years, you can reuse questions, so it helps to keep track of which questions actually got used.

3. Get a buzzer-lockout system (we borrow one from the Student Activities office, which has one for College Bowl). This gives the contest a more polished feel, although we could manage without it if we had to.
4. Advertise! There is a built in audience of sixteen, and usually these students will bring a few friends. If you get help in organizing the contest, that will also increase your audience.
5. Get some food. We run this over lunch, but we would feed the students (and ourselves) regardless of the time we held it.
6. Have fun! This is really fun for us, and the students have a blast. We don't take it too seriously, but we don't take anything very seriously.



Photos courtesy of Cliff Reiter

For your entertainment, here are a few more toss-ups:

- Q4. This word describes a series in calculus, an oscillator in physics, a function in analysis, and overtones in music. What is it?
- Q5. Name any year in which Isaac Newton lived.
- Q6. What shape are the faucet handles in the bathrooms of Pardee Hall [home of Lafayette's math dept]?
- Q7. What is the largest two-digit number whose square root is a perfect square?
- Q8. The numbers from one to 100 are written down. How many individual digits are written?

See answers on page 34

Answers from pages 10 and 11

Answers:

Q1. 1 and 2 **Q2.** 280 **Q3.** Stonesifer **Q4.** Harmonic **Q5.** 1643–1727 **Q6.** Dodecahedron **Q7.** 81 **Q8.** 192 **B1 a)** 1999 **b)** 2011.