The North Carolina State High School Mathematics Contest

As the State Mathematics Contests celebrates its twenty-fifth anniversary, it seems fitting to look at the impact that the contests that are a part of the Contest system have had on students who have taken the tests, the teachers who helped the students prepare for those tests, and those of us who administer the tests.

First a look at the facts: There have been twenty-four State Mathematics Contests. Over 2500 students have participated in these state finals, but close to 50,000 students have participated in qualifying contests held at local colleges, universities and community colleges to attend the State Mathematics Contest. These figures apply just to the Comprehensive Division. Shortly after the first State (Comprehensive) Mathematics Contest, state finals were added in Algebra One, Geometry, and Algebra Two. Over 100,000 more students have participated in the qualifying contests and state finals in these divisions.

After the first couple of years the Contest Committee started selecting at least one team of 15 students to send to the only national on-site mathematics contest, the American Regions Mathematics League Meet. Since 1981 North Carolina Teams, selected for the most part for their performance on the State Mathematics Contest, have represented the state in these national meets. These so-called ARML Meets have been New Brunswick, NJ, College Park Maryland, Durham, NC and State College Pennsylvania. The support for our ARML teams, like the support for the State Math Contest, comes entirely from the North Carolina Council of Teachers of Mathematics.

From the first year of the State Contest until today, most of the major colleges and universities in North Carolina have given scholarships to the top students in the comprehensive finals. In the early years Duke University gave full tuition scholarships to any student in the top ten who went on to attend Duke. Duke, NC State, and the University of North Carolina, among others, continue to award at least one scholarship each year. Through the State Mathematics Contest, well over one million dollars in scholarship money has been awarded to students who excelled at these contests.

What follows are statements from students, teachers, and contest committee members which will add some personal details to the above facts.

Sarah Dean, NCSSM and Charlotte Latin
11^{th} in 1994, 5^{th} in 1995, 6^{th} in 1996.
Currently (2003) 2^{nd} year graduate student at Harvard

I first participated in the North Carolina State Math Contest in the spring of 1990, when I was in sixth grade. I remember riding in a van for three hours from Charlotte to the Triangle with my brother and a group of older students from my school. My brother and I were planning to take the algebra I contest; the others were taking geometry, algebra II, or comprehensive. I was glad for the familiar presence of my brother, for I barely knew any of these older high school students.

Over the next six years of State Math Contests, however, these older students (including my brother) would become a sort of mathematical support group for me, since I had failed to receive much positive feedback about my interest in math from peers my own age at school. From seventh grade onward I attended these high school students' weekly math team practices, geared towards training us for contests like the AHSME, AIME, regional contests, and the North Carolina State Math Contest. The NC State Contest in particular served as the culmination of each year of practices and contests, since it was usually the last contest to be held during the school year.

The State Contest also provided a venue for me to meet other math-friendly students from schools all over the state. Each spring I looked forward to being reunited with friends close to my own age, like Jeff Mermin, Garrett Mitchener, Akash Patel, Kathy Paur, Frank Thorne, and many others, or to chat with super-stars a few years my elder, like Lenny Ng or Akira Negi. Such contact was both comforting and inspiring--not to mention
educational, since we would often discuss the contest's most challenging problems together after each contest.

As for me, I am still in graduate school. After graduating from the North Carolina School of Science and Mathematics in 1996, I spent 4 years at Duke University majoring in mathematics and physics. I then spent a year in the physics department at Stanford University to learn more about high-energy particle physics and string theory. I am now a second year graduate student in the math department at Harvard University, studying string theory problems rich in algebraic geometry and algebraic topology content. I still keep in contact with many of my NC State Math Contest friends, and would love to hear from any with whom I have lost contact.

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Daniel Wong, NCSSM and Sanderson High
9th in 1997, 2nd in 1998, 3rd in 1999
Currently (2003) student in Mathematics and Computer Science at Duke

I entered Duke University in the fall of 1999 after graduating from the North Carolina School of Science and Mathematics, and will graduate from Duke in May with degrees in computer science and mathematics. Over the past summers I have interned in summer programs at the National Security Agency and SAS Institute, Inc., and I plan to continue my studies in computer science at the graduate level in the fall.

My experiences with the State Math Contest have helped me greatly through my college years. The mathematical background developed through preparation for the contest also provides a solid foundation for any student planning to study mathematics at the college level, particularly in topics such as probability, combinatorics, and number theory. These topics are critical in the study of other areas of advanced mathematics, and also have wide-ranging applications in other disciplines, including economics, statistics, and the many branches of engineering and the physical sciences. In addition, the problem-solving skills displayed by all the contest participants are essential for success in any endeavor.

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Peter Kim, NCSSM and Enloe High School
1st in 1995, 1st in 1996, 1st in 1997
Currently, (2003) a first-year PhD student in Mathematics at Stanford University.

My interest in mathematics sparked early on when I attended my first contest in 7th grade. For the first time, I approached math problems with the intensity and excitement that invigorated my studies all the way to the end of high school. This contest and many other local and statewide competitions stimulated my curiosity to pursue mathematics as deeply as possible with the help of avid teachers who organized competitions, ran problem-solving seminars, and informed us about other valuable opportunities, such as the memorable summer programs that I attended throughout high school.

Math competitions effectively complemented my regular education and exposed me early on to a wide variety of problems representing nearly all major fields of higher-level mathematics. In addition, they gave me frequent opportunities to interact with a larger mathematical community of students and teachers from all over the state and the southern region. The contest questions were always accessible because they only required concepts that we had studied up to our current grade level, but they stretched our creative analytical abilities by posing unique problems that almost always required clever and insightful approaches.

These contests and other related problem-solving opportunities set the pace for my mathematical studies throughout middle and high school, and ended up providing me with a strong foundation on which to base my decision to continue to pursue mathematics in university and graduate school.

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Adam Falk, NCSSM and Durham Academy
6th in 1982, 2nd in 1983
Currently (2003) Vice Dean for Faculty and Academic Programs
Krieger School of Arts & Sciences, The Johns Hopkins University

I participated in the NC State Math Contest in 1982 and 1983. In my senior year I finished second, losing in a tiebreaker. I can still remember a stupid mistake I made in the regular part of the test, a mistake that cost me first place, and I still kick myself about it every once in a while!

Mathematics has always remained in my life, in one form or another. A brief biography: after graduating from the NC School of Science and Mathematics in 1983, I went to UNC as a Morehead Scholar and then on to graduate school at Harvard to study theoretical particle physics. (As an amazing coincidence, a fellow particle theory graduate student at Harvard was then dating, and is now married to, Michaelangelo Grigni, the 1982 NC Math Contest champion.) In 1991 I received my Ph.D., after which I postdoc'ed for two years at the Stanford Linear Accelerator Center and for a year at UC San Diego. In 1994 I came to Johns Hopkins University, for a faculty position in the Department of Physics and Astronomy. Since July, 2002, I also serve as the Vice Dean of the Faculty and Academic Programs.

The research I do in physics concerns the behavior of a particle called the bottom meson, or B meson for short. In particular, the decays of a B meson differ subtly from the decays of its antiparticle, and these differences contain important clues about the microscopic origins of the asymmetry that we see today between the density of matter and antimatter in the universe. I work on theoretical aspects of making a rigorous connection between the experiments on B mesons, on the one hand, and proposed theories of new physical phenomena at very short distance scales, on the other.

I have always enjoyed the kind of quick, clever problem solving that you come across in math contests. Having to think creatively and rigorously, under intense time pressure, about a wide variety of things, is fun and exciting in a very special way. And I still like puzzles, especially the kind that seem impossible until you find just the right way to think about them. Math contests were good training for my mind in ways that I never would have imagined. I thought they were just a lot of fun.

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Linda Green, NCSSM and Durham Academy
10^{th} in 1985, 6^{th} in 1986
Currently (2003) the mother of 2 future winners

I loved math contests in high school. I liked the challenge, the competition, the excitement of time pressure, and, of course, the thrill of winning. The State Math Contest carried extra appeal, because it was a prestigious contest, with the lure of college scholarships offered to top scorers and the promise of a road trip to the ARML contest for those in the top 20. So when I learned about this contest in 11th grade (1984/1985), I didn't want to miss it for anything, not even when I started feeling ill the day before the event. I've never publicly admitted this before, but the day I participated in my first State Math Contest, I was sick with two separate infections; when I finally crept into student health that afternoon, I had a fever of 103. Of course it was wrong for me to do the contest while sick -- I could have infected an entire generation of top North Carolina math students. But it shows how important it was to me, and you can imagine how proud and pleased I felt when I scored high enough to be invited on the ARML trip. The ARML trip was a blast. I loved riding in the van, swarming fast food restaurants at meal stops, talking about everything from astral projection to perfect pitch, and trying to outdo each other with bad puns and geeky jokes. The ARML contest itself was fun too, but the trip is what I remember most.

So the next year I was eager to go back to the State Math Contest. This time I was in good health with another year's experience behind me, and I managed to place 5^{th}. Again, I enjoyed the ARML trip to Pennsylvania. In those days, not many girls took math contests, so I happened to be the only girl on the trip that year. That meant while all the other kids slept four to a hotel room, I got two double beds and a bathroom all to myself. Plus I got a lot of attention. I enjoyed the attention, and always felt comfortable hanging around with the boys. It was good practice for later on, in college and graduate school, when it never bothered me to be the only woman in a class or study group.

I didn't do many math contests after high school, but I did enjoy taking the Putnam Contest every year of college, and once or twice I scored high enough to be selected for University of Chicago's "team". But while I wasn't very involved in contests, I did continue doing a lot of math. I doubled up on math classes to graduate with a Bachelor's and Master's Degree in 1990. From there I bounced around in graduate schools for a while, trying to follow alternately my husband and my advisor, which was tricky

since neither one would stay in one place. Finally after six years I graduated from Princeton with a PhD in the area of pure math known as 3-dimensional topology: the study of "the shape of space". I still find this area incredibly alluring because it's such a stretch for us humans to imagine different kinds of three dimensional spaces, just like a 2-dimensional Flatland creature would have trouble understanding the big picture of a Mobius band, or the surface of a doughnut, or even, at first, the surface of a sphere.

After graduate school, and a short post-doc research position, I dabbled in some more practical math-related jobs, including teaching at the North Carolina School of Science and Math, where I did get to take math contests now and then when I offered to proctor them, and where I was a little humbled to find that they were still very challenging! Then I moved on to a math consulting job, and finally a research programming position for a statistical genetics group. Currently I'm not working at all, but taking care of my two kids full time; I'm a little embarrassed to say that closest thing to math I do these days is the riddles I dredge up from memory to puzzle my seven-year-old (e.g., how many pieces can you cut a watermelon into, maximum, with only four chops). But I'm looking forward to plunging back into math again soon, and I hope I'll get to see some more math contests sometime, too.

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Daniel Cory, NCSSM and Chapel Hill
7^{th} in 1986, 2^{nd} in 1987, 2^{nd} in 1988, 2^{nd} in 1999
Currently (2003) works for Microsoft in Seattle

My favorite memory around the NC state mathematics contest was 1988. This was the first year that ARML was at Duke. As a way to reward the students making up the NC team, we spent a weekend at a big beach house. A lot of the time was inside doing math problems, but we still got to play in the ocean, toss Frisbees in the sand, and go for walks down beach. It was a lot of fun – a good mix of outdoor and indoor activity and a wild mix of people.

The previous years I had joined the NC team on the trip to ARML in Pennsylvania. Each year we'd stop somewhere fun on the long drive. One year was Washington, DC – the other was Hershey, PA. Hershey Park was fabulous fun – roller coasters to ride and chocolate everywhere. The trip also was a good chance to bond with the other students. I spent much of one trip learning about NCSSM from Linda Green and Keith Privette and others as I had just decided to leave Chapel Hill High School to go there.

Another unforgettable math moment was at ARML in 10^{th} grade. In one ARML individual round, usually a few students got perfect scores and had to go on stage to face each other off for the trophy. That year, after the first three pairs of questions, they asked those who had gotten all six to stand up. As usual, about six people stood up with perfect scores so far. Then the last pair of questions included one about reflecting a triangle. It seemed quite difficult, so I made some simplifying assumptions so I could come up with an answer. After the round I checked with people next to me – they'd made the same simplifying assumption, but gotten a different answer. Then I realized I'd made a math error – I think I said that 6 squared was 64. Then the answers were announced – it turned out the simplifying assumption was wrong, but the answer really was 64. I was the only one to get all eight questions right and so got the ARML trophy without having to face off on stage. I did solve the problem fully and correctly a few days later, but it took me hours!

Another big piece of state math contest work for me was helping Mr. Goebel with the state math contest book. As his student at NCSSM, I helped write & format the solutions in the book. This was good practice for the state math contest

Much of my math success was due to coaching from Mr. Stuart at Chapel Hill High School, Mr. Goebel at NCSSM, and both of them at various ARML practice events. All that practice paid off – it was a lot easier and faster to work problems that seemed similar to things you'd done before. Remember 1, 2, Buzz, 4, Buzz, Click, …

I now live in Seattle, moving here to work for Microsoft after getting a BS in math from Stanford. I married another mathematics student, and our one-year-old daughter already has a number line in her room and counting books on her bookshelf.

I also volunteer extensively for MathCounts, helping run the local chapter and state competitions, and reviewing questions for the national contest. It's a good chance to practice my state math contest skills – although luckily the junior high school level problems are a bit easier! A few years ago I went to national MathCounts and gave a talk on "Everything I Need at Microsoft I Learned at MathCounts". I looked up

soon after my arrival to find Harold Reiter – who was working on MathCounts as well as the state math contest.

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Garrett Mitchener, NCSSM and Charlotte Latin
11th in 1995
Currently (2003) PhD student at Princeton in applied and computational math.

I participated in the state math contest several times during high school. It was a great opportunity to meet people from other parts of the state. I remember seeing lots of familiar faces from Math Counts, and making friends and acquaintances I would see again and again. For instance, one year the math contest had a round just for fun, where teams had to solve a problem, then send someone running to different corners of the NCSSM gym to get the next problem. I ended up on a team with Lenny Ng, and sure enough I bumped into him in Princeton not too long ago. The state math contest was part of what led me to go to NCSSM, where I spent two of the best years of my life. Just for fun, we would challenge other nearby high schools to practice meets, and give them silly prizes. I think we came up with the idea at the grocery store: We were on our way to buy some snacks, and there were ornamental cabbages outside Harris Teeter, and someone had the idea to give one away as a prize...

ARML was a lot of fun, too. We must have come up with a dozen ways to play Spades on the way to Pennsylvania. We would always stop and do something fun along the way. My first year with ARML, we stopped in Baltimore and spent some time at the harbor, but Frank missed the van and we had to send someone back for him. That was also the year everyone threw paper airplanes during the final ceremony. Another year, I accidentally dropped my big family-sized bottle of shampoo into the toilet at our hotel on the way home. I watched in disbelief as it went down the drain and never came back. You just never know what will happen on the way to a math contest.

After high school, I decided to go to Duke University for my undergraduate work, where I majored in math and computer science. I continued to participate in contests in college, knowing from my experience in high school that you win some and you lose some, but along the way you meet all sorts of other people that share your interest in math. Our undergraduate math club even ran a couple of high school contests. One of them was snowed out, and only one school showed up, but we improvised two teams and had a good time anyway. In a later year, Duke had a very successful contest with lots of teams, so many in fact that we ran out of food at lunch. We tried to have a relay round, like ARML, and our lecture hall turned out to be too small and we had to come up with a convoluted seating arrangement so everyone could play and not be crowded. Then, the tie breaker problems for the individual round were too hard and we must have gone through a dozen of them before we ran out and still hadn't broken the tie, and we were scrambling to come up with new ones on the spot.

When I graduated from Duke, I went to Princeton to work on a PhD in applied and computational math. I will be finishing this coming June. I consider myself very lucky: The program turned out to be perfect for me, and I've made some of the best friends of my life here. I also got to work on mathematical models of human languages, a truly fascinating subject that brings together the most interesting parts of so many different fields.

Next fall, I'll be returning to Duke for a post-doc, on my way to becoming a professor of mathematics. I doubt I'll be competing in any more contests, since most mathematicians my age are already excited about math and no longer need a special occasion like a competition to get together and share their enthusiasm. But, I do hope to find a way to stay involved with contests and guide the next generation of mathematicians to do their best.

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David Coe, Tuscola High School
9th in 1984, 2nd in 1985
Currently (2003) Mathematics Professor, University of Alabama in Huntsville

The NC State Math Contest has been very influential in terms of my education, the higher education opportunities available to me, and my career opportunities. The preparation for and participation in the Contest process gave me the mathematical skills I needed to succeed in my undergraduate education as a double major in Computer Science and
Mathematics. Moreover, the scholarship resulting from my success in the State Math Contest provided me with the opportunity to attend Duke University, a nationally recognized university that I would not have been able to attend otherwise.

The value added to my undergraduate degree as a result of the name Duke University has been a key factor in not only my admission to Georgia Tech, a top-ten ranked graduate school in Electrical Engineering, as a doctoral student, even though I was not an undergraduate engineering major, but also in securing a research assistantship which paid for practically all of the costs associated with obtaining both my masters and doctoral degrees in Electrical Engineering.

Finally, my participation in the NC State Math Contest process continues to influence my career today in that the resulting scholarship money assisted me in obtaining undergraduate and graduate degrees from nationally recognized universities. During the series of interviews I had for my current academic position, I was repeatedly informed that they were eager to hire graduates from nationally recognized universities to bolster their own academic reputation.

The NC State Math Contest process has thus had a lasting impact on my education and career path.

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Spencer Muse, Tuscola High School
16th in 1985
Currently (2003) Professor of Statistics, NC State University

As a student from a low-income family attending a rural high school in the North Carolina mountains, I had very little means to understand how my academic abilities compared to those of other students across the state. Because no one in my family had ever attended college, none of my relatives were in a position to offer advice on my future at a university. Participation in high school mathematics competitions was the primary mechanism for me to measure my abilities against my peer
group of college bound students. Success at these events, particularly at the North Carolina State Math Contest, provided the positive feedback that enabled me to step confidently into a college career. The social benefits of participation in math contests are not to be ignored. At least in my high school, it was not really an easy thing to be smart; I can assure you that my football teammates gave me a befuddled shake of their heads on more than one occasion. The small but close-knit math community provided a safe haven to explore my "geeky" interests. Mr. John Goebel was my teacher and math coach for my three high school years. His involvement in my life, including his emphasis on events such as the State Math Contest, is without a doubt the most important reason I now have a career as an academic.

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Michelle Jones Zandieh, Tuscola High School
7th in 1983
Currently (2003) Assistant Professor of Mathematics, Arizona State University

I think that preparing for math contests *in general* had some impact. For one thing it made me better at taking standardized tests, always a useful skill, and that improved my PSAT scores so that I was a National Merit finalist which got me some money and also recognition and made it easier for me to go to Northwestern. And it was fun. I liked hanging out in your room before school and at lunch -- sometimes working, sometimes (more often socializing). I liked working on the problems. I enjoyed the trips -- especially to Charleston. I enjoyed getting to know other students better through those trips. And it was a sense of accomplishment.

I am in my sixth year at Arizona State. I go up for tenure this summer. I have a large NSF grant to work on my research. This particular grant looks at college math major's (including pre-service

teacher)' transition to more proof-based courses. It's about how students understand mathematical reasoning and come to reason more like mathematicians.

I won a young researcher award for a paper I wrote (from my dissertation) on student understanding of the concept of derivative. I teach math classes and math ed courses. My favorite course (which I also do research on) is on the geometry of the plane and sphere using David Henderson's book. I have two beautiful children -- a girl Ara, age 3.5 and a boy Avi who is almost 2.

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Jeffrey Vanderkam, NCSSM and Broughton High
9th in 1986, 4th in 1987, 1st in 1988, 4th in 1999, 1st in 1990
Currently (2003) Mathematician for Institute for Defense Analyses

The State Math Contest was always one of the highlights of the year for me, a fun opportunity to see old friends and rivals and mark my progress. One of the best things about it was that, after competing against each other all year at local contests and then at State, we would turn around and join up as a single team at ARML. The practices and competitions were always a lot of fun, and I still see some of the same people occasionally today (for example, my office is now five doors down from Derek Smith, the 3rd-place finisher in '88).

The most obvious impact of the contest on my subsequent career is obviously through the tuition scholarship to Duke, where I graduated in '94. It seems to have worked out pretty well for all parties involved, I got a BS in math and physics, and along the way I was on the math team that won the first of what have become numerous Putnam championships for the university. Another pleasant result of attending Duke was that I got to stay close to my high-school sweetheart, Susan Killian (top 30 at State Math Contest in '89 and '90), who was attending UNC. We got married right after our college graduations and went off to grad school at Princeton, where I got my Ph D in analytic number theory in '98 under Peter Sarnak. After graduation, I spent one year on a post-doctoral appointment at the Institute for Advanced Study. Since then I have worked for the Institute for Defense Analyses, a government contractor/think-tank. It's a fun opportunity to use mathematical techniques on very real-world problems, although for security reasons I can't say much more about it than that. We now live happily with our two kids, Katie and James, in Princeton.

One other indirect, but very positive, influence of the State Math Contest on my life came from my work with John Goebel in putting together the problem book during my senior year at NCSSM. In addition to learning a lot about mathematical writing, I also learned how to use LaTeX, a skill that still pays off for me today when writing technical reports.

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Lenny Ng, Chapel Hill High School
4th in 1988, 1st in 1989, 2nd in 1990, 2nd in 1991, 1st in 1992, 1st in 1993

I had the good fortune to participate in the State Math Contest for six years, from 1988 to 1993.

The State Math Contest was probably the first event that showed me how much fun math could be. I vividly remember the excitement and the challenge of tackling the questions on the contest---the rush of adrenaline when we were given the signal to start, the exhilaration from solving a particularly sneaky problem. There's a candid photo of me at the State Math Contest as a seventh grader, poring over the exam with a somewhat goofy smile on my face.

The best part of the State Math Contest, however, wasn't even the contest itself; it was the chance to meet kids from all over the state who shared my enthusiasm. These were a great group of students, not at all the stereotypical "nerds" of popular folklore, bound together by their common love of mathematics. It was a joy, and an all too infrequent pleasure, to see these kindred souls, and I'm very grateful to the State Math Contest for giving me these opportunities. In addition to the students, the "grown-ups" at the event, the teachers and administrators, always treated me like family.

Ten years after my last State Math Contest, I'm still in academia and in mathematics. The contest is a glimpse into the world of research mathematics, which has similar challenges and rewards, but naturally on a much grander scale. My fellow contest participants are now applying their talents to a wide variety of careers, many of which employ their passion for mathematics. For me, and undoubtedly many others, one could say that it all began at the State Math Contest.

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Ashley Reiter Ahlin, Charlotte Latin, NCSSM
12^{th} in 1988, 3^{rd} in 1989, 3^{rd} in 1990, 9^{th} in 1991
Currently (2003) Senior Lecturer, Mathematics Department, Vanderbilt University

Preparing for, participating in, and enjoying the fruits of the NC State Mathematics Contest were a very significant part of my high school years. I enjoyed playing with problems, sudden "Aha!"s and sharing problems, solutions, and many car trips with close friends. Little did I know that the pleasures of the contest program were whetting my appetite for many of the greatest joys of life, and that the connections (both mathematical and personal) which I made there would long outlast high school.

In retrospect, I see that the contest program provided well-defined goals for which I could strive. It taught me the discipline of sacrifice in the pursuit of an earnestly sought goal, and the pleasure of "putting your all" into an activity. Without that experience, I honestly doubt that I would have survived college as a math major, much less a long Ph.D. program. Even outside of mathematics, the diligent pursuit of a hoped for goal has encouraged me to take risks, to aim high, and to not fear failure.

Perhaps more importantly, the community of those participating in the math competitions became an important source of comraderie with those who also saw mathematics as an enjoyable pursuit. Many of those friendships have survived to this day! (And we still enjoy exchanging mathematical puzzles and their clever solutions.) The State Math Contest has even provided the earliest picture of my husband and I together, since I married a fellow top-20 finisher whom I met several years later in graduate school!

In reminiscing about the State Math Contest, many moments of great fun and friendship come to mind-weekly practice sessions at school, our home, other friends' homes, and NCSSM, baking cookies for long trips to competitions, running around the SAS banquet hall during the lunch time competition, and making friends with competitors seen year after year. I'm thankful for the chance to participate in a program which provided so much fun, mental stimulation, and good friendships.

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Archie Benton, Teacher, North Buncombe High School
ARML Coach

I became involved in math contests in a roundabout way. Fourteen years ago I was given a section of Honors Geometry to teach. I was still a new teacher and this was my first honors course. After about 2 weeks of class I was approached one morning by 3 students. I can still see these students in my mind's eye. "When are we going to start the Geometry team?" they asked. I didn't know what a Geometry team was! I had been so busy with coaching sports and keeping my head above water I didn't know of such a thing as a math competition. These students filled me in about the regional contest. This apparently led to a state contest. It was September. The idea of a math contest intrigued me and we got started. I was hooked. That year 5 students qualified for the state Geometry contest. Our school won it's first team trophy at the regional contest. In was a testament to student enthusiasm and a slow climb up the learning curve for me. Since then, with the support and help of my math department and administration, our involvement in math contests has helped many students get genuinely excited about mathematics. It's just not possible to overstate the power of the "teachable" moments that constantly occur when studying mathematics for competitions.

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Burton, "Bud" Stuart, Teacher - Chapel Hill High School

The state math contest has meant a lot to my teaching career over the past 24 years. The only one I missed was the first one. We sent two students that year who did not place, and they came back complaining that they recognized all the problems but needed practice. This led to our forming a Math Club the following year that now meets weekly for two hours on Tuesday nights. This Math Club may have been what kept me teaching at Chapel Hill High School for 30 years. It has required an immense amount of work to prepare for the meetings and to organize and inform students of the in-school and out-of-school contests in which we participate, but the interest and stimulation it has given my students makes the effort worthwhile.

The fact that we have done well at the state math contest over the years is not the most important thing to me. In fact, the year we placed the fewest students may have been my most enjoyable. I knew I had a weak group at the beginning of the year, but they progressed farther than I ever expected. The Math Club was also the most popular club at the school that year; we had one meeting with 77 students! This is a record to this day (thank goodness!).

Another rewarding result of the Math Club inspired by the state math contest is the return of so many former students. Several students come back regularly to help me run the Math Club, and some of these even attend the state math contest with me. This has become even more important since my Math Club partner, Susan Nelson, retired two years ago after helping me for 22 years. I could not run such a large club without the help of my former students, Jeff Mermin, David Mermin, and Jonathan Woodward. Also we have a traditional alumni night on the first Tuesday in January each year in which former students return to compete with our current students. The alumni have all gone on to successful careers, many in the field of mathematics but even more in other fields. They all express the opinion that mathematics was an important contributing factor to their success.

When the state math contest started 24 years ago, I could not imagine what it would lead to at Chapel Hill High School. It has helped make mathematics the course to take and the Math Club the club for advanced students to join. And it has helped make my career to be more rewarding than I could have dreamed.