

## **The Middle School Puzzle Contest, A Chapter Activity**

Greensboro Chapter of Sigma Xi  
Greensboro, North Carolina

Compiled and submitted by Alice Haddy,  
Chapter Delegate to the 2001 National Sigma Xi Meeting

### Our Chapter:

The Greensboro Chapter of Sigma Xi is made up of members from a variety of colleges, universities, hospitals, and companies, including the University of North Carolina at Greensboro, North Carolina A&T University, Bennett College, Guilford College, High Point University, Moses Cone Hospital, Lorillard, and Syngenta. Our membership has been stable and is usually around 130 members. We usually hold three public lectures and one banquet for members per year. But one of our major annual activities, which we have been carrying out since about 1990, has been to sponsor a puzzle contest for area Middle Schools.

### Summary of the Contest:

The puzzle contest is written, distributed, and graded by chapter members. It consists of ten mathematics or science questions at a level that is appropriate for Middle School students, including a few questions that are particularly hard and a few that are particularly easy. The contest is distributed to all middle schools in the county. After a week, the puzzle contests are collected by teachers and routed to back to us. We grade the contests, thereby selecting a winner for each grade (6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>). There can be more than one winner for a grade if students tie for the highest score. The winners, their parents, and their teachers are invited to our Spring Banquet, where we honor the winners with cash awards.

Included here is a compilation of comments from the people who are experienced at writing and organizing the puzzle contest, as well as hand-outs shared by the Puzzle Committee with each other, the middle school students, and the public.

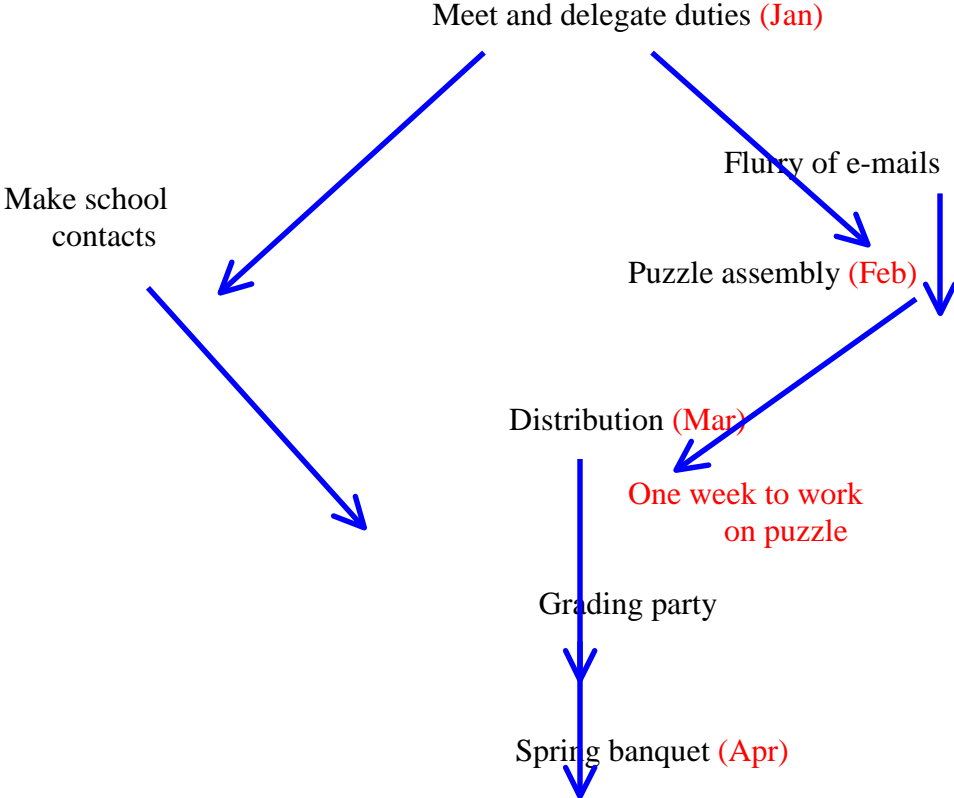
2001 PUZZLE CONTEST  
ASSIGNMENTS

Individual 1	Select puzzle questions, prepare puzzle, Preliminary version ready mid-February, final version and February.
Committee	Make contact with schools' coordinators, other personal acquaintances. Complete and give feed back to Individual 2 by mid-February.
Individual 2	Manage correspondence with schools, introducing and distributing puzzle.
Individual 3	Physical distribution in early March, collection late March. Public schools puzzle is delivered to one point, they will copy, distribute, and collect and we fetch completed papers from the central point.
Individual 4	Hold puzzle grading party end March.
Individual 5	Notify winners, issue banquet invitations, arrange prize checks early April.
Individual 6	Arrange banquet and speaker – probably third week April.
Individual 7	Manage publicity. Pre-distribution late February, winners announcement and photo just after the banquet. Work with college/university publicity office.

2001 PUZZLE CONTEST  
SCHEDULE

<b>Tentative Dates*</b>	<b>Tasks</b>	<b>Person in Charge</b>
January 25	Organization meeting	
February 12	Prepare preliminary puzzle	
February 13	Discussions with school contacts	Committee handles
February 20	Introduce puzzle to schools	
February 26	Agree final puzzle and answers – puzzle committee meeting	
March 1	Alert schools of imminent puzzle	
March 1	Final version of puzzle	
March 6	Arrange advance publicity	
March 6	Puzzle distribution to schools	
March 19	Students start puzzle	
March 26	Students turn in papers to teacher	
April 5	Puzzle collection from schools	
April 10	Puzzle grading party, winner selection	
April 11	Winners notification, banquet invitations, prize check preparation	
April 19 or later	Banquet and prizes	
April 19 or later	Press release	

A diagram of what we did in 2001



Puzzle contest works well because of:

- Good planning – Delegation of duties
  - Group leader (who organizes activities and delegates)
  - Puzzle “czar” (who acts as the puzzle editor, may also be the group leader)
  - Ten or so people in all involved
  
- Cash prize
  - We select at least one winner per grade and award each winner \$50
  - This is a great attraction!
  
- Good selection of questions
  - Many doable to encourage participation
  - A few very hard to distinguish winners
  
- Great cooperation from schools
  - Central contact for the public schools – central drop-off and pick-up spot
  - Private school participation is variable – we mail puzzle to them, but attempt to set up personal contact

## Other comments

It is important to keep the puzzle at a good level:

- One year the puzzle was on the easy side and we had ten winners. At \$50 per winner, this became very expensive for us.
- Another year, the puzzle was a bit too hard and the submission of puzzles was lower than usual.

Types of questions:

- Our puzzle contests have ten questions each.
- We try to have a variety of types of questions, with some that are drawn from science.
- Some questions should be similar to questions the students have had in school, but a few not. Our puzzle writers have used the internet as a resource, as well as older books with some “classics.”
- We try to include a few illustrated puzzles for eye appeal.
- The questions should be gender balanced.

School feedback:

- It is important to get feedback from the schools every few years (if not more often).
- We split the list of school contacts and call for comments after the contest is over.

Honor code:

- It is up to the students, with the help of their teachers, to be honest about doing the puzzles themselves.

Resources used by our puzzle committee members:

### Puzzle books

- “The Dell Book of Logic Problems” by Rosalind Moore, Ed., Dell Publishing, New York, 1984.
- “365 Exercises for the Mind” by Pierre Berloquin, Barnes & Noble, New York, 1998.
- “536 Curious Problems and Puzzles” by Henry Ernest Dudeney and edited by Martin Gardner, Barnes and Noble Books.
- “Great Book of Math Puzzles” by Philip Heafford, Sterling Publishing Co., New York.

### Internet

- Math Forum - Math Forum has recently moved from Swarthmore to Drexel, and math problems can be found at its new internet address: <http://mathforum.org/pow/>

- Car Talk (NPR radio program), “The Puzzler” – Current and older puzzles are found at the Car Talk web site: <http://cartalk.cars.com/>

Other

- old Games magazines
- puzzle page of airline magazines

And, of course, many of our problems are made up by our committee members!

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