

**Title of Proposal** Northwestern Ontario High School Mathematics Contest**Contact information***The one person and place to
Communicate with the applicant(s).*Name Adam Van TuylE-mail avantuyl@lakeheadu.caTelephone 807-343-8228Fax 807-343-8821**Institution or department to administer grant funds**

Name	<u>Dept. of Mathematical Sciences</u>	Contact	<u>Adam Van Tuyl</u>
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Summary *Less than 100 words* **Total amount requested in this competition** \$ 2500

For the past 8 years, the Department of Mathematical Sciences at Lakehead University has hosted a high school mathematics contest. It has enjoyed a great deal of success: the number of contestants has risen from 69 to 190 and is projected to be 210 in 2011. Funding through various donors permits us to waive any entry fee. Financial support received from the CMS in 2006 through 2009 allowed us to expand the contest into Northwestern Ontario, and in 2010, we gained a foothold in Orillia, where our satellite campus is located. We seek further support in order to continue our expansion.

Applicants*Put any specific information on the relevant experience or expertise of an applicant in "Other".*

Name(s)	Adam Van Tuyl	Yin Chen	Greg Lee
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Position	Chair/Associate Professor	Associate Professor	Professor
Employer	Lakehead University	Lakehead University	Lakehead University
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CMS member number

008289015102**Current Grants****NSERC Discovery Grant****NSERC Discovery Grant**

Structure of the Contest: In fact, we offer four contests each year; junior (grades 9 and 10) and senior (grades 11 and 12), each in an individual and team format. The students write the individual contest in the morning, and the winners are announced at the end of the day. (The grading is done by Lakehead faculty and graduate students on a volunteer basis.) The team contest (for groups of three students) is written in the afternoon, and winners are notified a few days later. Students in Thunder Bay write at Lakehead, while schools outside the city proctor their own contests and mail them in. The prizes for the area schools are sent out the week after the contest. Books, gift cards, trophies and medals are awarded as prizes. In addition, there is a special \$500 scholarship for the senior student with the highest score who attends Lakehead in the fall.

Contest Philosophy: We have been delighted to see the contest expand. In its first year, 2003, there were 69 participants. In 2010, we had 190. Our contest is not necessarily designed to discover future mathematicians, but instead to convince students that mathematical thought is useful in a wide range of activities, and to present them with an interesting challenge in using it successfully. We hope that continued CMS support will allow us to expand the contest further into Northern Ontario and the Orillia area.

Costs: Thanks to the generosity of our sponsors (in particular, our principal sponsor, TD Canada Trust), the contest is run at no cost to the students or schools. One of our major expenses is providing lunch to all of the students, teachers and sponsors. In addition, we have provided a t-shirt to each contestant every year. The other major expenses include prizes, printing and postage (for the out-of-town schools). Each high school provides transportation for the students participating in the contest.

For four years, the funds from the CMS Endowment Grant have allowed us to move the contest beyond Thunder Bay, and with continued support, we hope to continue the expansion. To be sure, having CMS as a sponsor raises our profile in the mathematical community in general, and with the high school mathematics teachers in particular. We also believe that it will allow us to leverage additional corporate support. Furthermore, promotion of this contest, providing extracurricular mathematics opportunities to young people, is clearly in line with the purpose of the CMS.

Budget

Description	Revenue		
TD Canada Trust	5000		
Vice President (Academic) (Lakehead)	500		
NSERC	500		
Local businesses	500		
CMS Endowment Grant requested	2500		
Total Revenue \$	9000		

	Expenses		
Lunch	2900		
Printing and postage	1000		
Prizes	3000		
T-shirts	2100		
Total Expenses \$	9000		

Other *Funding, partners, revenue potential, information on applicants such as publications or awards, at most 20 lines.*

Our contest is run by a committee of faculty in the Department of Mathematical Sciences at Lakehead University. This committee was founded by Professor Emeritus Clement Kent in 2003.

The current chair of the committee is Dr. Yin Chen, who has been involved with the contest since its inception. He has written numerous papers on analysis, and holds an NSERC Discovery Grant.

Our department chair, Dr. Adam Van Tuyl, has also been involved with the contest since it began. He is a prolific writer in commutative algebra, and holds an NSERC Discovery Grant.

Dr. Greg Lee joined the contest committee in its second year, when he took up his position at Lakehead, and for the last several years, has been involved in the design of the contest itself. He has written several papers, as well as a new Springer monograph on group rings.

All of the mathematical work for the contest is done by Lakehead faculty. The grading and proctoring of the contestants is done by faculty and student volunteers. Our principal donor since the beginning has been TD Canada Trust, and we are delighted with their enthusiasm to continue.

Project start date: April 2011

Project finish date: May 2011