

**Title of Proposal** Saskatchewan Math Challenge**Contact information***The one person and place to
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Summary *Less than 100 words* **Total amount requested in this competition** \$ **7500**

Co-operation between the Saskatchewan Math Teachers Society and the University of Regina Math & Stats Department in 2003 (and subsequently the University of Saskatchewan in 2004) lead to a very successful mathematics competition for around 250 grades 8-10 students -- based on the US MathCounts competition. Entry fees were minimal, and per school, to keep it open to all interested parties regardless of economic situation. Entry numbers are increasing. As of 2004, MathCounts has instituted a charge of US\$25 per student for materials, preventing us from continuing in this mode. We are asking for an endowment grant over three years to cover development and production costs for a Saskatchewan-based competition. Any such materials developed will contain the logo of the Canadian Mathematical Society. Support from the CMS will be used to attract other funding.

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

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Position	Professor of Mathematics		
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CMS member number Current Grants

Background: Saskatchewan's 2003 MathCounts competition targeted Grade 8, 9 and 10 students and was organized through the cooperation of the Saskatchewan Math Teachers Society (SMTS) and the Department of Mathematics and Statistics, University of Regina (U of R). The Saskatchewan contest was designed not to mirror other contests (such as the Waterloo contests) but rather as a "math is fun" event, welcoming all levels of contestants rather than a contest designed solely to identify one or two top provincial students. It provided individual as well as team-based competitions. There were nearly 250 students participating from virtually all areas of the province. To keep the contest open to all comers, including a number of inner city 'core' schools, a minimal entry fee per school was charged. One of the most positive things about the event was the overwhelming enthusiasm of students, teachers and parents. Although there were schools that entered well-coached teams, which was clearly reflected in the winners categories, it was encouraging to note that award winners represented some 16 different schools. In 2004 the University of Saskatchewan (U of S) followed our lead and successfully funded and ran a similar event. Our aim in these contests is to provide a comfortable setting to build mathematical skills, promote strategic problem-solving, and expose students to complex problems whose solutions require creativity and persistence. The benefits from such competitions are well documented, particularly in the U.S. where MathCounts is nationally recognized, with questions and materials created by the National Council of Teachers of Mathematics. Studies show that such contests attract students with an interest in high-tech and engineering fields -- in recent (U.S.) surveys of past MathCounts competitors, the top three chosen college majors were engineering, mathematics and computer science.

Problem: The parent Mathcounts committee has raised the fees to US\$25.00 per student! Our 2003 total budget of \$5000 included only about \$1000 for Mathcounts materials. Other expenses were for food, (administrative) travel, student markers and awards. The U of R, the local schools, and the SMTS cannot support the new MathCounts costs.

Proposal: Along with the SMTS board we are proposing a 'made in Saskatchewan' contest – the Saskatchewan Math Challenge - to replace MathCounts. This means devising and producing the exams through the creation of design templates, a problem database, etc., that can be easily used and updated in subsequent years. If we succeed in that, the SMTS will raise (through small registrations) about \$1500 per year towards running the contests. The U of R Faculties of Science, Engineering and of Education, *subject to other financing being found*, will each commit to \$1000 every other year *on a continuing basis* for contests held at the U of R. The U of R Math & Stats Department will support the contests with \$500 every other year. Thus we can lever U of R/SMTS funds if we can get the contest up and running as proposed. We will lever the U of S for funding in alternate years.

Budget

Description	Revenue		
	2005	2006	2007
Faculties of Science, Education & Engineering, Univ. of Regina	\$3000		\$3000
Department of Math & Stats, University of Regina	\$500		\$500
University of Saskatchewan (tentative)		\$3500	
Saskatchewan Math Teachers Society	\$1500	\$1500	\$1500
CMS Endowment Grant requested	\$2500	\$2500	\$2500
Total Revenue \$	\$7500	\$7500	\$7500

Expenses			
Postage / Advertising / Awards	\$1000	\$1000	\$1000
Travel – contest administrators	\$500	\$500	\$500
Student lunch/snacks/travel	\$2000	\$2000	\$2000
Student markers (CUPE rates)	\$1000	\$1000	\$1000
SaskMathChallenge School kits	\$500	\$500	\$500
SaskMathChallenge Test templates/database development	\$2500	\$2500	\$2500
Total Expenses \$	\$7500	\$7500	\$7500

Other

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

The CMS endowment grant will underwrite the development and production costs for the contest. Given availability of such funds, other sources of funding to actually run the contests will be levered from faculties at the University of Regina (U of R), the Department of Math & Stats at the U of R, the Saskatchewan Mathematics Teachers Society, and, if successful, the University of Saskatchewan for funds to run the contest in alternate years.

Denis Hanson is a full professor of mathematics at the U of R. He has been involved in elementary and secondary mathematics education in a number of ways including serving 10 years on various provincial advisory committees, serving on committees with local school boards, Science Fair judging and organizing, and organizing MathCounts in Saskatchewan in 2003. In addition, he has served two terms on the Board of the CMS (1985-87; 1989-1991), served on the CMS Education committee (1997-2000) and several of its subcommittees, served on the CMS Olympiad Committee (1977-1978) and the International Math Olympiad Problem Selection Committee (1994-1995) and served as Articles Editor for the CMS journal Crux Mathematicorum. He has also been involved in setting up (1995) and the continued operation of Math Central <http://MathCentral.uregina.ca/> - a collection of internet services related to mathematics and mathematics education. The services include a database of teaching resources, a question and answer service, a mailing list for teachers, a problem of the month and links to related sites. We have two retired high school teachers willing to work on the design project and have commitments of six faculty members in Mathematics and Statistics to help run the contests and help in their design.

Project start date: January 1, 2005

Project finish date: February 28, 2007