

Report on MathCamp2015

The Department of Mathematics conducted its fourteenth Mathematics Camp, August 29–September 2, 2015. Twenty students from grades 9 and 10, who stayed in residence at St. John’s College, were immersed in an intensive program of mathematics and its applications. Nineteen students were from Winnipeg and one from Thompson, twelve girls and eight boys.

A schedule of each day’s activities is attached. On Monday through Wednesday, there were two and one-half hours of class time, one and one-half in the morning and one in the afternoon, after which students applied their understanding to extensive problems sets on the theme of the day. Topics covered were arithmetic in different bases, linear Diophantine equations in two and three variables, and sequences and series (finite and infinite).

Funding for the Camp came from the Canadian Mathematical Society (\$2100), with student fees amounting to \$3000.

Will Gibson did a superb job as tutorial assistant. He helped students with the problem sets and entertained them with puzzles on one of the evening activities. The rapport that he built with the students was excellent.

We found the students very attentive and appreciative of our efforts, and, as usual, we were amazed at their insight at such a young age. Their attitude was exemplary; they applied themselves to the tasks we set before them and willingly took part in other activities.

Recreational activities included soccer, volleyball, and the “sensational septathlon”, a farcical rendition of seven Olympic events.

Michelle Davidson gave an evening talk on card tricks and their related mathematics, and Robert Borgersen gave a talk on graph and Ramsey theory.

In order to help us assess the value of the Camp from the students’ point of view, students were asked to fill out a questionnaire (see attachment). Results indicated that:

1. The choice of late August is most popular, followed by early July.
2. The most preferable length for a camp is 5 days.
3. All evening sessions were very popular with the students.
4. Most students were able to do about 60% of the problems in the time available and felt that they were at the correct level of difficulty.
5. Those that read the notes found them understandable and beneficial.
6. The ratio of instruction to tutorial times was appropriate for most students.
7. Topics were well chosen and will prove beneficial in the future.
8. Tutorial assistants did an excellent job.
9. St. John’s College was an acceptable residence for the Camp, except for the lack of air conditioning.
10. The Camp was given an average rating of 8.1 out of 10.
14. Seventeen of twenty students indicated that their interest in mathematics had increased as a result of MathCamp.
15. Sixteen of nineteen students are considering a career in mathematics, science, or engineering.

Attached is the Student Report on Mathcamp2015 and a statement of revenues and expenses.

Submitted by Donald Trim

University of Manitoba MathCamp August 29 – September 2, 2015

Schedule

August 29:	Opening day	
	10:00 – 10:30	Check into rooms
	10:30 – 12:00	Introduction of program and class
	12:00 – 1:30	Lunch
	1:30 – 2:30	Class
	2:30 – 4:00	Problem solving based on the previous class
	4:00 – 5:30	Sports/ Games/Relaxation
	5:30 – 7:00	Dinner and free time
	7:00 – 9:00	Recreation/mathematical movies/activities/etc
	9:00 – 10:30	Free time
	10:30	Lights out
August 30 – September 1	The middle days	
	7:30 – 9:00	Breakfast
	9:00 – 10:30	Class
	10:30 – 12:00	Problem solving based on the previous class
	12:00 – 1:30	Lunch and free time
	1:30 – 2:30	Class
	2:30 – 4:00	Problem solving based on previous class
	4:00 – 5:30	Sports/Games/Relaxation
	5:30 – 7:00	Dinner and free time
	7:00 – 9:00	Recreation/mathematical movies/activities/etc
	9:00 – 10:30	Free time
	10:30	Lights out
September 2:	Closing day	
	7:30 – 9:00	Breakfast
	9:00 – 10:30	Class
	10:30 – 12:00	Problem solving based on the previous class
	12:00 – 1:30	Lunch and free time
	1:30 – 2:30	Class
	2:30 – 3:30	Problem solving bases on previous class
	3:30 – 5:00	Closing activities
	5:00	Students depart

Questionnaire on MathCamp 2015

1. When would you prefer the MathCamp (circle one)?

Early July Late July Early August Late August

2. What do you feel is the optimum number of days for the Camp (circle one)?

3 4 5 6 7

3. Did you enjoy the evening sessions? Please comment on what you liked about them and what you did not like about them.

Sunday Session (Puzzle night with Will)

Monday Session (Paper and Card Tricks with Michelle Davidson)

Tuesday Session (Graph and Ramsey Theory with Rob Borgersen)

4. What percentage of the problems did you finish? Do you feel that they were too easy, too hard, or reasonable?

5. Did you read the notes that accompanied classes? If yes, comment on how readable you found them. In other words, could you understand them?

6. We used a ratio close to 1 hour of instruction to 1 hour of tutorial work. Do you feel this is appropriate, or do you have a suggestion for a different ratio?

7. Do you feel that the topics dealt with in the Camp were appropriate? Do you feel that they will benefit you in future mathematical studies and competitions? Suggest any other topics that you would enjoy learning about.

8. Were the tutorial assistants helpful and enthusiastic in working with you?

9. Comment on the suitability of St. John's College as residence for the Camp?

10. On a scale of 1 to 10, with 10 highest, rate the Camp.
11. What was the best aspect of the Camp for you?

12. What was the worst aspect of the Camp for you?

13. Do you have further comments or suggestions that would help us to improve future camps?

14. Did your experience with MathCamp increase your interest in math, science, or engineering?

15. Are you considering a career in math, science, or engineering?

Student Report on MathCamp 2013

The University of Manitoba Math Camp was a great experience for all who attended. At camp, we learned about Bases, the Euclidean Algorithm, Diophantine equations (two and three variables), Sequences, Series, and more. All of our knowledge bases were expanded getting us ready to excel in the upcoming school year. I think attending math camp was a great decision as I have not only excelled in math, but I have also made many friends with common interests.

Don Trim and Will Gibson were great instructors and teachers throughout these few days. Their backgrounds and mathematical knowledge provided great teaching methods, and both of their personalities made the entire experience more fun. Both were always happy and eager to help us.

The evening activities and speakers were also fun. My favourite was “puzzle night” which Will organized. Everyone got super into it, and between us all, we solved almost every one of the countless puzzles. It was really amazing seeing how each one of us found one puzzle or another simple, while others found that puzzle extremely hard and so on.

If anyone asked, I would definitely recommend math camp, as it has been an amazing experience, and has expanded my horizons into the math and university world.

Financial Report

Income

1. Canadian Mathematics Society	2100.00
3. Student Fees (20×150)	3000.00
Total	5100.00

Expenses

1. Meals	2975.66
2. Room Rental	1069.20
3. Salaries for tutorial assistant and in resident adult	800.00
4. Supplies and Miscellaneous	246.42
5. Facility rentals for volleyball and soccer	200.00
Total	5291.28
Balance	(191.28)