Professor Ross Honsberger

Ross Honsberger was born June 2, 1929 in Toronto. His father, Irwin, was a bookkeeper and his mother, Grace, before their marriage, a saleslady. After his retirement, Irwin had a home-based business, locating new and used books for customers, and also rebinding damaged books.

Ross attended Bloor Collegiate Institute, graduating in 1947. It was in high school that he met his future wife, Nancy Dawson. Another friend from that time was Frank Gehry <https://en.wikipedia.org/wiki/frank_gehry>, the architect. Reflecting on their lifelong friendship, Gehry said, "Ross and I in our high school days provoked each others' curiosities. He became the curious mathematical genius, and I the curious architect".

After high schoool, Ross entered the University of Toronto, graduating in 1950 with a BA degree. He decided to become a high school mathematics teacher. To this end, he took another year of mathematics and science courses at the University, and the following year obtained his teaching certification at the Ontario College of Education in Toronto.

Ross began his teaching career at Fisher Park Collegiate Institute in Ottawa. During his year there, he and Nancy were married. Ross then taught for ten years 1953-63 in the North York (Toronto) Board of Education, five years at Earl Haig Collegiate Institute, and five years as Department Head at Northview Heights Secondary School. During those years, Ross and Nancy's three children were born.

Among the students influenced by Ross are James Stewart <https://en.wikipedia.org/wiki/james_stewart_(mathematician)> and Michael Feldstein. Stewart, who became a mathematician and calculus textbook author, was asked in an interview what got him interested in mathematics. He responded by describing Ross, saying that he was "not your typical high school math teacher". Stewart was fascinated by Ross's "digressions"; for example, he proved in his grade 11 class that the rationals are countable and the reals are not. Feldstein, who went on to an academic career as a biostatistician, considers Ross his "first real mentor in mathematics and, more importantly, in teaching". He remembers especially the humour that Ross brought to his teaching, and his empathy for the students. Notably, while he took pains to obtain student feedback, Ross never embarrassed students by singling them out.

Ross was an active member of his profession, frequently giving talks to groups of mathematics teachers. Through such activities he came to know Ralph Stanton, who in 1957 took up a position as head of mathematics at what was to become the University of Waterloo. Stanton got Ross involved in the grading of the province-wide Grade 13 examination in Algebra, and in the production of the Ontario Secondary School Mathematics Bulletin. Ross eventually served as its managing editor for ten years.

The year 1963-64 was a pivotal one for Ross. He took a sabbatical from high school teaching and enrolled in a master's degree program at the University of Waterloo. Near the end of that year, Ralph Stanton offered Ross a position as a Lecturer in Mathematics. Ross asked if it was a permanent job, to which Ralph said "Yes", and they shook hands. Based on this, Ross resigned his high school job, repaid his sabbatical salary, and moved his family to Waterloo. During the next three years Ross carried a full teaching load while completing his master's degree. In 1967 he was promoted to Assistant Professor.

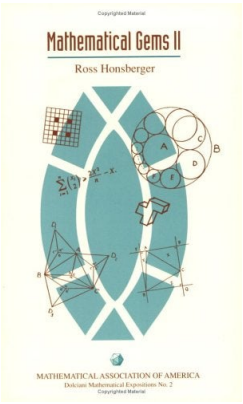
With his taste for elegance, his humour, and his enthusiasm, Ross was a popular lecturer. He made lecturing look easy. However, lurking behind this appearance, and evident in the notes he prepared, lay hours of meticulous preparation. Moreover, when he repeated a course offering, he never used his old lecture notes, but always created new ones.

In the sixties and seventies, there was a high demand for qualified high school mathematics teachers. Programs were needed for undergraduate mathematics majors at Waterloo interested in teaching as a career. In addition, many teachers already in service wanted to upgrade their qualifications. Ross played a leading role in addressing these needs. He developed several courses aimed at current and prospective teachers. Two notable ones were *History of Mathematics* and *Mathematical Discovery and Invention*. The latter became widely known as the *One Hundred Problems Course*. In addition to normal offerings, these courses were given in special six-week

summer terms and by distance education. While their regular offerings were aimed at prospective teachers, they attracted many other students, partly due to Ross's reputation as an inspiring lecturer. Ross continued to give talks to groups of high school teachers and students. In 1971 when he was promoted to Associate Professor, Ross wrote "My main area of endeavour is prospective high school teac

hers and those already in service".

Ross's energy and ambition led him in another direction, too. From the beginning of his career, he had been searching out fascinating mathematical problems having elegant solutions, polishing them, and describing them in short essays. In the late sixties Ross submitted about forty of his essays to the New Mathematical Library series of the Mathematical Association of America (MAA). The editors selected nineteen of them for Ross's first book, Ingenuity in Mathematics <http://www.maa.org/press/ebooks/ingenuity-in-mathematics>, which appeared in 1970. Ross eventually produced thirteen books, all published through the MAA. When in 1974 a new MAA series, Dolciani Expositions, was created, Ross's book, Mathematical Gems <http://www.maa.org/press/maa-reviews/mathematical-gems-i>, was chosen to



be the first book in the series. Later, Ross chaired the committee of MAA responsible for the Dolciani series. The books sold well, and had considerable influence. Several were published in foreign language editions. Ross's writing enhanced his reputation, and, indeed, the reputation of mathematics at the University of Waterloo.

Ross's approach in his books can be summarized as follows (paraphasing the introduction to one of his books). Too often, the study of mathematics is undertaken with an air of such seriousness, that it is not fun at the time. However, it is amazing how many beautiful parts of mathematics one can appreciate with a high school background. Ross's goal in his writing was to describe such gems, not as an attempt to instruct, but as a reward for the reader's concentration. The success that Ross enjoyed was due to the combination of his superb taste in the choice of topics, and his talent and care in exposition. Ross also gave credit to Nancy for helping him to improve his writing.

When in 1967 the Department of Mathematics was replaced by a Faculty of Mathematics with five departments, Ross joined the Department of <http://math.uwaterloo.ca/co/>

C and O <http://math.uwaterloo.ca/co/> Combinatorics and Optimization <http://math.uwaterloo.ca/co/>. He became a highly valued member of that department. In 1971, when Ross was promoted to Associate Professor, a department colleague wrote in a supporting letter that Ross was "a research mathematician in the best sense of the word, i.e., a contributor to fundamental and original thinking about the nature of the subject as a whole".

Ross was a wonderful positive influence on those around him. He enthusiastically shared his latest elegant solution with everyone. Former colleagues recall Ross asking for a few minutes of their time, leading to much longer discussions. "Everyone" also included friends of his children that happened to come to the house. Accessibility to such friends was aided by the fact that, as his daughter Sandy recalls, "his office was our living room'.

As time passed, Ross stepped back from teaching to concentrate on his

writing. He took a reduced load appointment in 1990, and early retirement in 1991. Ross did not teach in retirement, but his occasional special lectures drew large and enthusiastic audiences. Meanwhile, he devoted a lot of energy to his writing. Six of his books appeared after his retirement, the last in 2004 <http://www.maa.org/press/books/mathematical-delights>.

Throughout his life Ross had wide interests, including reading, music, gardening, handball, darts, billiards, and poker. He always had a dog. And of course, there was his family. He cared for Nancy through her long battle with Parkinson's disease. She died in 2010. Ross remained in their home of more than fifty years until May 2015. After he was diagnosed with a cancer of the blood, he moved into assisted living. Ross continued to enjoy movies, music, and televised sports. There were frequent visits from friends and family, and from his dog, Barney, for whom a new home had been found.

Ross died April 3, 2016. In addition to his daughter Sandy, he is survived by three grandchildren and seven great grandchildren. He will be long remembered by his family, his friends, his colleagues, his students, and his many readers.

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