In this talk I describe the first-year writing seminar I taught at Cornell University for five years. I designed a course unique in content, goals, means, and expectations, aimed mainly at students with a strong background in mathematics (future majors in mathematics, engineering, computer science, sciences). To achieve my proposed ends, chiefly an overhaul in students’ general beliefs about mathematics, I asked the students to read selected writings on mathematics, to consider certain surprising possibilities (including counterfactuals), to listen to professional mathematicians invited as guests, to discuss and react to their peers’ opinions, and to examine in new light the knowledge of mathematics they have acquired throughout their school career. The course gave students a sense of self-awareness toward personal aspects, choices, and assumptions involved in gaining mathematical experience. Although I prepared this seminar for (and and I taught it to) undergraduates, another good audience for it would be formed by high-school mathematics teachers. (Received September 15, 2014)