

September 14, 2024

Welcome to Math 9, 2024-2025 academic year

Dear students and parents,

Welcome to the new academic year at SchoolNova. My name is Igor Zaliznyak and I will be the teacher of Math 9 classes.

As every previous year, I will be doing my best to pass on the great gift of humanity's knowledge and appreciation for the artistic beauty of mathematical ideas that was given to me when I was at school. Every year that I am teaching Mathematics at School Nova, I try to share my affection for the beauty, the rigor, and the elegance of mathematics with the new generation of students. I find this a rewarding and enjoyable experience, but also an intellectually challenging one – our Math 9 is a difficult class. However, students need not be worried – our goal is not to make them over-worked and exhausted, but to expand the horizons of their knowledge and understanding, to learn, love, and appreciate difficult math. Each year I am very excited to meet the new students in the class and I hope that our lessons will further their affection and enthusiasm for mathematics.

In our class, we will be following, in parallel, two subjects, which I call the old way – Algebra and Geometry. The subjects will be closely intertwined, so that ideas, concepts, and problems that we will learn in one will be used in the other. The split between subjects will fluctuate from one lesson to another, depending on the pace that we will have in each. We will begin with some basic review of mathematical logics and set theory in algebra and with the advanced theorems and problems in planimetry. We will then continue to some advanced trigonometry, method of coordinates and curves of the second degree, vectors, complex numbers, and more.

The classes will be held in person in the same location on the SUNYSB University campus as last year. Our Math 9 class will be in the Humanities building, room 3015. We will continue using the Google classroom for submitting and grading the homeworks and other class-related communications. I sent all students the invitation to the Google classroom this week. Please accept the invitation to be able to upload the homework and get it graded. Check the Google class stream regularly for news and updates. To submit your homework, take the picture or scan the notebook, or prepare it in an electronic form, such as pdf, and upload it to the google classroom.

As you probably know, School Nova places strict requirements on attendance and homework assignments. Homework assignments in our class, however, will be structured less formally than in the earlier grades. For each lesson, I will usually be providing a handout where the material is explained for your reference. I think that these handouts are useful, and I believe that it is very important that students review the classwork handout after each class. The homework assignment will usually have a range of problems that are offered to students. Although solving the entire problem set would probably be very difficult unless you are an absolute genius, it is extremely important that students try to solve as many problems as they can. Both classwork handouts and homework assignments will be posted on School Nova web page, <https://schoolnova.org/nova/homeworks>.

In addition to handouts, there is a list of recommended literature which I use in preparing this course. I recommend that you consider buying or renting these books (if you don't already have) – most of them are timeless mathematical classics, and you will never regret getting one.

Students - please come to class on time and well prepared, with paper/notebook and pens/pencils for taking notes, and with the homework assignment prepared in a neat, orderly, and clearly understandable fashion.

Again, welcome to the new school year,

Sincerely,

Igor Zaliznyak.

Math 9 recommended literature, 2014-2025 academic years

1. R. Courant, H. Robbins. What is Mathematics? (Oxford University Press, 1996)
2. I. Stewart. Concepts of Modern Mathematics. (Dover, 1995).
3. G. E. Andrews. Number Theory. (Dover, 1994)
4. H. S. M. Coxeter, S. L. Greitzer. Geometry revisited. (The Mathematical Association of America, 1975)
5. Kiselev's Geometry. Book I. Planimetry (www.sumizdat.org, 2006)
6. I. M. Gelfand, M. Saul. Trigonometry (Birkhauser, 2001)
7. I. M. Gelfand, E. G. Glagoleva, A. A. Kirillov. The Method of Coordinates (Dover, 2002)
8. I. M. Gelfand, A. Shen. Algebra. (Birkhauser, 1993)
9. I. M. Gelfand, E. G. Glagoleva, E. E. Shnol. Functions and Graphs. (Dover, 2002)