

Prealgebra Part 1, Fall 2024

(Part 2 was offered in Spring 2025)

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United States



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TO REGISTER: <https://xumath.org>

WHEN, WHERE AND HOW MUCH?

Term: Aug 18, 2024 – Jan 2, 2025

In-Person (at QD) and Virtual (live zoom) Lecture: 6:30pm-8:00pm (CT), Sun
(zoom or video on Nov. 30-Thanksgiving, Dec. 28-Christmas)

Live zoom Homework Solving: 7:00pm-8:00pm (CT), Thu.

In-Person Address: QD Academy, 4100 Legacy Drive, Suite 404, Plano, TX 75024

Format:

- 20 1.5-hour lectures + 20 1-hour homework solving
- 18 homework assignments (to be graded) + 2 take-home exams (to be graded)

Tuition: \$749 (register by July 22, 2024), \$779 (register after July 22, 2024)

WHO TEACHES?

Dr. Sheng Xu: Associate professor of math at Southern Methodist University

- Received Ph.D. from Cornell and did post-doc at Princeton and Cornell;
- Taught 11 different math courses at SMU in past 18 years;
- Received Betty McKnight Spears Endowed Teaching Excellence Award
- Recommended by K12 students and parents in anonymous testimonials on <https://xumath.org/testimonial/>
- Published an undergraduate textbook *Introduction to Scientific Computing with Matlab and Python Tutorials*, Taylor Francis, 2022

COURSE INFO

Syllabus, Sample Notes and Videos: <https://xumath.org>

Required Textbooks:

- [1] Customized notes by Prof. Xu with reference to various books (available before each class)
- [2] R. Rusczyk, D. Patrick and R. Boppana, *The art of Problem Solving (AoPS) Prealgebra*

References:

- [3] Ron Larson et al., *Pre-algebra*, McDougal Littell

TOPICS

- Integers; Powers with integer exponents
- Basics of number theory: Divisibility, Prime factorization, LCM and GCD/GCF
- Fractions; Rational numbers
- Decimal numbers; Scientific notation
- Variables; Expressions; Equations; Inequalities
- Ratios; Proportions; Percents; Rates
- Square Roots; Irrational numbers; Real numbers
- Counting; Probability
- Data; Statistics
- Basics of Euclidean geometry: Common shapes; Perimeter; Area
- Basics of analytical geometry: Cartesian coordinates; Graphs of equations