

Geometry after PreAlgebra

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

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WHEN, WHERE, HOW MUCH?

Term: June 12 - Aug. 14, 2026

In-Person and Live Zoom Lecture: Fri. 5:30-7pm CT

In-Person and Live Zoom Homework Solving Class: Tue. 5:30-6:30pm CT

In-Person Address: PolyEducation, 4116 W Spring Creek Pkwy, Suite C500, Plano, TX, 75024

Format:

- 10 1.5-hour lectures + 10 1-hour homework solving classes
- 10 homework assignments (to be graded) + 1 exam (to be graded)
- (1) In-person and live zoom hybrid; (2) Customized lecture notes on Canvas; (3) [Videos for making up missed classes](#); (4) [Cash awards](#) for effort and performance in graded quizzes, homework and exams.

Tuition: \$450 (if register and pay by March 31), \$480 (after March 31)

WHO TEACHES?

Dr. Sheng Xu:

- Recommended by K-12 students and parents in anonymous testimonials (on <https://xumath.org>)
- Math professor at Southern Methodist University with Teaching Excellence Award; 19 years and 17 math courses teaching experience; Author of the undergraduate textbook: *Introduction To Scientific Computing with Matlab and Python Tutorials* (on amazon.com); Ph.D. from Cornell and post-doc at Princeton and Cornell

COURSE INFO

Syllabus: <https://xumath.org>

Required Textbooks:

- [1] Customized notes by Prof. Xu (available before each class)
- [2] Ron Larson et al., *McDougal Littell Geometry*, 10th Edition, ISBN 0-618-25022-0: fundamental homework problems from this book

TOPICS

Unit 1: Basics of Geometry

1. Introduction and Overview
2. Points, Lines, Planes, Segments, Angles
3. Measurements, Relationships, Perimeter, Circumference, Areas

Unit 2: Perpendicular and Parallel Lines

1. Lines and Angles
2. Using Properties of Parallel Lines

Unit 3: Congruence

1. Using Congruence
2. Special Triangles

Unit 4: Properties of Triangles

1. Bisectors, Medians and Altitudes
2. Triangle Inequalities

Unit 5: Quadrilaterals and Polygons

1. Parallelograms, Rhombuses, Trapezoids and Kites
2. Areas of Quadrilaterals
3. Polygons: Angles, Perimeters, Areas

Unit 6: Similarity

1. Proportion and Similarity
2. Using Similarity: Length and Area

Unit 7: Right Triangles

1. Right Triangles: Similarity, Pythagorean Theorem
2. Special Right Triangles

Unit 8: Circles

1. Tangents, Arcs, Chords, Inscribed Angles, Sectors
2. Relationships in Circles
3. Circumference, Arc Length, Areas

Unit 9: Transformations and 3D Shapes

1. Translations, Reflections and Rotations
2. Prisms, Cylinders, Pyramids, Cones, Spheres