

Honors/Regular Geometry

Course	Dates	Schedule	Instructor
Honors Geometry	10/23/25 –5/28/26	Thursday 4:30 – 6:00 PM	Mr. Kouts

Course Description

The small group class is designed to re-enforce students' understanding of the school curriculum. The classes will include homework, quizzes/tests to prep for the school quizzes/tests. The topics covered are listed below. We'll be happy to open additional small group classes focusing on your school specific topics upon request.

Unit 1 – Tools of Geometry

- Nets and Drawings for Visualizing Geometry
- Points, Lines and Planes
- Measuring Segments
- Measuring Angles
- Exploring Angle Pairs
- Basic Constructions
- Midpoint and Distance in the Coordinate Plane
- Perimeter, Circumference and Area

Unit 2 – Reasoning and Proof

- Patterns and Inductive Reasoning
- Conditional Statements
- Biconditionals and Definitions
- Deductive Reasoning
- Reasoning in Algebra and Geometry
- Proving Angles Congruent

Unit 3 – Perpendicular and Parallel Lines

- Lines and Angles
- Properties of Parallel Lines
- Proving Lines Parallel

- Parallel and Perpendicular Lines
- Parallel Lines and Triangles
- Constructing Parallel and Perpendicular Lines
- Equations of Lines in the Coordinate Plane
- Slopes of Parallel and Perpendicular Lines

Unit 4 – Congruent Triangles

- Congruent Figures
- Prove Triangles Congruent SSS, SAS, ASA, AAS
- Using Corresponding Parts of Congruent Triangles
- Isosceles and Equilateral Triangles
- Congruence and Right Triangles
- Congruence in Overlapping Triangles

Unit 5 – Relationships within Triangles

- Midsegments of Triangles
- Perpendicular and Angle Bisectors
- Bisectors in Triangles
- Medians and Altitudes
- Indirect Proof
- Inequalities in One Triangle
- Inequalities in Two Triangles

Unit 6 – Polygons and Quadrilaterals

- Polygon Angle-Sum Theorem
- Properties of Parallelograms
- Proving that a Quadrilateral is a Parallelogram
- Properties of Rhombuses, Rectangles and Squares
- Conditions for Rhombuses, Rectangles and Squares
- Trapezoids and Kites
- Polygons in the Coordinate Plane
- Applying Coordinate Geometry
- Proofs Using Coordinate Geometry

Unit 7 – Similarity

- Ratios and Proportions
- Similar Polygons
- Proving Triangles Similar
- Similarity in Right Triangles
- Proportions in Triangles

Unit 8 – Right Triangles and Trigonometry

- The Pythagorean Theorem and Its Converse
- Special Right Triangles
- Trigonometry
- Angles of Elevation and Depression
- Laws of Sines
- Laws of Cosines

Unit 9 – Transformations

- Translations
- Reflections
- Rotations
- Composition of Isometries
- Congruence Transformations
- Dilations
- Similarity Transformations

Unit 10 – Area

- Areas of Parallelograms and Triangles
- Areas of Trapezoids, Rhombuses and Kites
- Areas of Regular Polygons
- Perimeters and Areas of Similar Figures
- Trigonometry and Area
- Circles and Arcs
- Areas of Circles and Sectors
- Geometric Probability

Unit 11 – Surface Area and Volume

- Space Figures and Cross-Sections
- Surface Areas of Prisms and Cylinders
- Surface Areas of Pyramids and Cones
- Volumes of Prisms and Cylinders
- Volumes of Pyramids and Cones
- Surface Areas and Volumes of Spheres
- Areas and Volume of Similar Solids

Unit 12 – Circles

- Tangent Lines
- Chords and Arcs
- Inscribed Angles
- Angle Measure and Segment Lengths
- Circles in the Coordinate Plane
- Locus: A Set of Points

Program Pricing

[Click here to register](#) and view tuition

Course Instructor

Mr. Kouts

Mathematics, Physics, and Computer Science Teacher



Mr. Koutsothodoros is a professional teacher of Mathematics with a Master's degree and a Bachelor's degree in Mathematics. He has over 15 years of teaching experience on Math, Physics, and Computer Science, including SAT/ACT Math, AP Calculus AB, AP Calculus BC, AP Statistics, Precalculus, Algebra I, Algebra II, Geometry, Honor Physics, and AP Physics C (Mechanics and E&M), AP Physics I & II, and AP Computer Science A. He emphasizes on teaching the fundamentals so that students can build a solid foundation on both the subject and problem-solving skills required to excel on exams and applications of concepts in the real world. Being extremely familiar with the structure and style of questions, Mr. Koutsothodoros has helped hundreds of students achieve high and perfect scores.

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