



秋季学期

初高中课程介绍

华夏总校2026

Algebra I

Instructor: 林子平

Pre-requisites: Pre-Algebra

Students: 6-8 grade

Description

Algebra I makes up the Heart of Algebra in SAT Math. This course helps students to explore the tools of Algebra. Students will learn to comprehend fundamental Algebra Concepts such as Factoring Technique, Completing the Squares, Quadratic Equations, etc. and master the ability to solving problems using Logical Reasoning and Algebraic Skills.

教师介绍/About The Teacher: Teacher Lin is meticulous and responsible. Mr. Lin has been passionately teaching Pre-Algebra, Algebra I, Geometry, Algebra II, SAT Math, Pre-Calculus, and Calculus to middle & high school students for more than 10 years. Benefitted from his education and research in Signal Processing and Statistics, plus his work experience as an electronics engineer and a software developer for 中科院光机所, Halliburton, Exxon, and BMC Software, Mr. Lin is a seasoned stock investor & option trader and a passionate math teacher.

林老师教学认真负责, 注重学生对概念的理解, 强调学生的表达能力, 倡导课堂中的互动, 充分结合现代科技以及他在工程, 计算机, 数学, 统计, 投资, 教学各领域的实际工作经验, 进行数学教学, 在华夏这个大家庭, 深受学生喜爱和家长的认可。

Contents

- Solving Linear Equations
- Functions and Patterns
- Analyzing Linear Equations
- Solving Systems of Linear Equations
- Solving Linear Inequalities
- Polynomials
- Factoring
- Quadratic and Exponential Functions
- Radical Expressions and Triangles
- Rational Expressions and Equations

Prepare for

CBE (Credit By Exam), Geometry, and Algebra II, SAT Math

AP Physics 1

物理 1

课程/Course: AP Physics 1	老师/Teacher: Ziping Lin 林子平	
学生/Students: Grade 9 th -12 th	准备为/Prepare for: AP Physics 1 每年5月份全国统考, AP Physics2	
先决必修课/Pre-requisites: Algebra I, Geometry	上半部分(1 st half 2026秋季学期)	下半部分(2 nd half 2027 春季学期)
课程说明/Course Description: AP Physics 1 is the equivalent of a first-semester college course in algebra-based physics, which allows high school students to take college-level courses and earn college credit. The course emphasizes critical thinking, problem-solving, and the development of laboratory skills.	• Introduction - Metric System, SI Unit, Accuracy vs. Precision, Approximation, and Scientific Notation • Kinematics – Vector, Position, Displacement, Velocity, Acceleration, Linear Motion, and Projectile • Dynamics – Different Kinds of Forces, Newton’s 1st, 2nd, and 3rd laws, Free-Body Diagrams, and Applications • Circular Motion and Gravitation – Gravitational Forces, Centripetal Acceleration and Centripetal Force, Uniform Circular Motion	• Energy – Open & Closed Systems, Work & Mechanical Energy. Kinetic vs. Potential Energy, Conservation of Energy, and Power • Momentum – Impulse, Conservation Momentum, Elastic and Inelastic Collisions. • Simple Harmonic Motion – Period and Frequency, Spring-Mass System, Pendulum, and Kinetic Energy vs. Potential Energy. • Torque and Rotational Motion – Angular Kinematics, Torque, Rotational Inertial, and Conservation of Rotational Momentum

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Geometry
几何

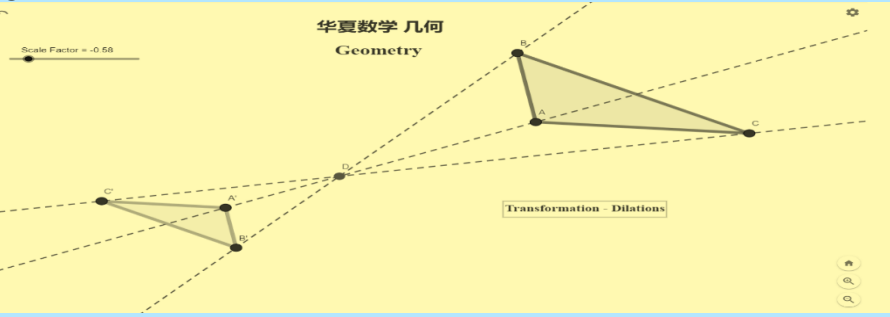
课程/Course: 华夏数学几何/Geometry

学生/Students: Grade 7th-9th

先决必修课/Pre-requisites: Algebra I

课程说明/Course Description:

Geometry Concepts make up a significant portion of SAT Math. This course helps students to recognize and work with geometric concepts. They build on ideas of inductive and deductive reasoning, logic, concepts, and postulates and theorems of Euclidean plane and solid geometry. Students use a software to aid visualizations,



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老师/Teacher: Ziping Lin 林子平

准备为/Prepare for: Algebra II, SAT Math, AMC, 数学

- | 上半册(1 st half 2026 秋季) | 下半册(2 nd half 2027 春季) |
|---|---|
| <ul style="list-style-type: none">Inductive & Deductive Reasoning, Conditionals and ProofAngle Relations, Parallel and Perpendicular LinesAngle Theorems, Congruent Triangles, SSS, SAS, ASA, AAS and HLRelationships in Triangles, Formations of Circumcenter, Incenter, Centroid, and Orthocenter, Triangle Inequality, Hinge Theorem.Quadrilaterals, Sum of Interior Angles, Sum of Exterior Angles/Proportions and Similarity, Special Segments. | <ul style="list-style-type: none">Proportions and Similarity, Special Segments.Right Triangles (Pythagorean Triples and Special Right Triangles) and Trigonometry, Law of Sines and Cosines.Transformations(Translation, Reflection, Rotation, and Dilation) and VectorsCircles, Arcs, Chords, Central and Inscribed Angles, Tangents, Secants, Equations of Circles.Areas of Polygons and CirclesExtending Surface Area & VolumeEuclidian vs. Non-Euclidian Geometry |

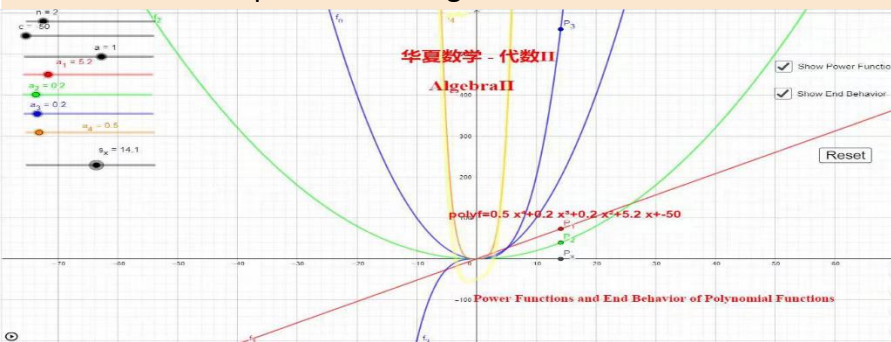
点击链接注册: www.houstonhuaxia.org

课程/Course: 华夏代数 2/Algebra II

学生/Students: Grade 8th-10th

先决必修课/Pre-requisites: Algebra I, Geometry

Algebra II and Algebra I makeup Passport to Advanced Math in SAT Math. This course will progressively and systematically teach student some of the more difficult and advanced concepts in Algebra. The class will use a software to help student visualizing some of the concepts and building solid foundation for Pre-Calculus



老师/Teacher: Ziping Lin 林子平

为期/Duration:

准备为/Prepare for: Pre-Calculus, SAT Math, 数学竞赛

上半册 (1st half 2026秋季学期)

- Compound Inequalities, Absolute Value Equations and Inequalities
- Relations and Functions, Domain and Range, Special Functions, Graphs of Piecewise Inequalities
- Systems of Equations in 3 Variables & Graphic Interpretation Systems of Linear Inequalities, and Linear Programming
- Matrices and Its Application in Transformation and System of Linear Equations.
- Complex Numbers, Quadratic Functions and Inequalities, Vertex Form and Graphic Transformation of Quadratics
- Long and Synthetic Division of Polynomials, Polynomial Functions, and Fundamental Theorem of Algebra

下半册 (2nd half 2027 春季)

- Long and Synthetic Division of Polynomials, Polynomial Functions, and Fundamental Theorem of Algebra
- Inverse Relations and Functions, nth Roots, Radical Equations and Inequalities
- Complex Fractions, Rational Equations and Inequalities, Graphs of Rational Functions, Asymptotes, and Points of Discontinuities,
- Exponential and Logarithmic Functions, Common & Natural Logarithms, and Logarithmic Equations and Inequalities
- Conic Sections (Parabolas, Circles, Ellipse, and Hyperbolas), Standard Form, Systems of Quadratic Equations and Inequalities
- Arithmetic & Geometric Sequences and Series, Sigma Notation, Recursion and Special Sequences

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AP Pre-Calculus
 预科微积分

课程/Course: 预科微积分 AP Pre-Calculus	老师/Teacher: Ziping Lin 林子平
学生/Students: Grade 10 th -12 th	准备为/Prepare for
先决必修课/Pre-requisites: Algebra II, Geometry	AP Calculus AB or BC 5月年度全国统考， Multi-Variable Calculus
课程说明/Course Description: Calculus developed by Isaac Newton and others has wide applications in Physics and other natural sciences, Engineering, and Economics. HuaXia Pre-Calculus is aimed to help student prepared for the All-Important Calculus. This course will progressively and systematically teach student some of the advanced concepts in Pre-Calculus and introduce Limits, Derivatives and Antiderivatives, and the Fundamental Theorem of Calculus.	内容/Contents 上半册 (1st half 2026 秋季) - Linear Equations & Inequalities and Piecewise Functions - Systems of Linear Equations & Inequalities and Matrices - Families of Graphs – Symmetry, Continuity, and End Behavior - Polynomial, Rational, and Radical Functions & Inequalities - Unit Circle, Trigonometric and Periodic Functions - Graphs of The Trigonometric and Inverse Functions
下半册 (2 nd half2026 春季) - Trigonometric Identities and Equations - Vectors and Parametric Equations - Polar Coordinates and Complex Numbers - Introduction to Analytic Geometry and Conics - Exponential and Logarithmic Relations - Arithmetic, Geometry, and Special Sequences &	教师介绍/About The Teacher: Teacher Lin is meticulous and responsible in teaching, focusing on students' understanding of concepts, emphasizing students' expressive ability, advocating interaction in the classroom, and fully combining modern technology and his practical work experience in engineering, computer, mathematics, statistics, investment, and teaching. In the Huaxia big family, Teacher Lin is deeply loved by students and recognized by parents. Mr. Lin has been passionately teaching Pre Algebra, Algebra I, Geometry, Algebra II, SAT

AP Calculus
 AB & BC (AP微积分)

课程/Course: 预备微积分 Pre-Calculus	老师/Teacher: Ziping Lin 林子平
学生/Students: Grade 10 th -12 th	准备为/Prepare for
先决必修课/Pre-requisites: Pre-Calculus	AP Calculus AB or BC 5月年度全国统考, Multi-Variable Calculus
课程说明/Course Description: Calculus developed by Isaac Newton and others has wide applications in Physics and other natural sciences, Engineering, and Economics. HuaXia Pre-Calculus is aimed to help student prepared for the All-Important Calculus. This course will progressively and systematically teach student some of the advanced concepts in Pre-Calculus and introduce Limits, Derivatives and Antiderivatives, and the Fundamental Theorem of Calculus.	第一部分 - Limit(极限), the Very 1st Big Idea of Calculus – Rate of Change, Continuity, One Sided Limits, Laws of Limit, Intermediate Value Theorem, and Asymptotes - Differentiation (微分) , the 2nd Big Idea - Rules of Derivatives, Higher Derivatives, Chain Rule, Derivatives of Trigonometric, Exponential, Logarithmic, and Inverse Functions, Tangent Lines, Implicit Differentiation, and Approximation of a Derivative - Applications of Differentiation – Related Rates, Linear Motion, Mean Value Theorem, 1st & 2nd Derivative Test, Higher Derivatives, Curve Sketching, Concavity, and Optimization - Integration (积分) , Antiderivatives, Riemann Sum and Area Approximation, Definite Integral and Properties, Area under a Curve, and Trapezoidal Rules
第二部分 Fundamental Theorem of Calculus, Integration by Substitution, Integration of Exponential and Logarithmic Function - Application of Integration – Area of a Region Between 2 Curves, Volumes by Disk and Washers. Volumes of Solids with Cross Sections, Motion of a Particle, Average Value of a Function, Length of a Curve (BC) - Techniques of Integrations – Basic Rules, Trigonometric Integrals, L’Hopital’s Rule, Integration by Partial Fraction(BC) and by Parts(BC), and Improper Integrals(BC)	第三部分 Vector Valued Function, Slopes, Tangents, and Arc Length in Parametric Equations, and Areas in Polar Coordinates - Infinite Sequences and Series – p-Series, Integral Test, Comparison Test, Ratio Test, Alternating Series and Error Bound - Representations of Functions as Power Series – Convergence of Power Series, Taylor Polynomials, Lagrange Error Bound

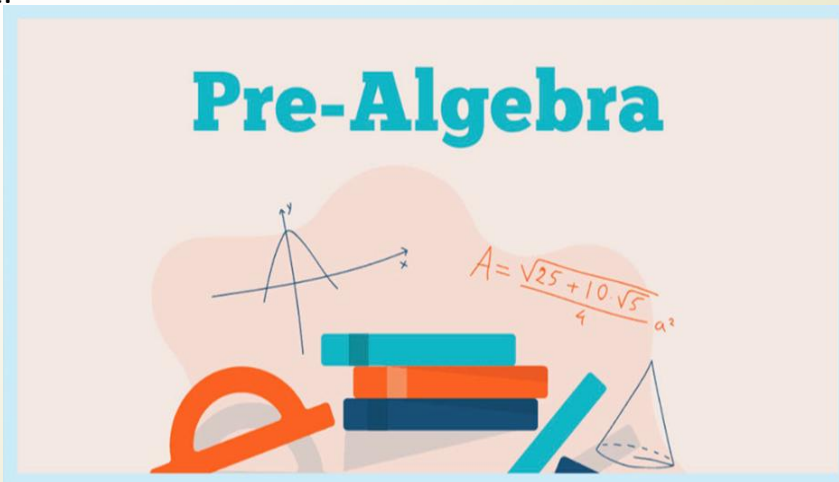
Pre - Algebra

Instructor: 汪宝宏老师

Prealgebra includes a thorough exploration of the fundamentals of arithmetic, including fractions, exponents, and decimals. We also introduce beginning topics in number theory and algebra, including common divisors and multiples, primes and prime factorizations, basic equations and inequalities, and ratios. The course also surveys a wide range of topics, including geometry, counting, statistics, and probability.

This course is specifically designed for high-performing students and draws material from many programs for top middle school students in the country. Our philosophy is that students develop more by learning to solve problems they haven't seen before, as opposed to offering repeated drills that students can memorize their way through. In this way, our classes are structured much more like courses at top-tier colleges.

Time Commitment: This 32-week course includes 90 minutes in-class and 1-3 hours of homework each week, corresponding to a full year course.



AMC8 & Middle School Math Competition Class

Taught by Baohong Wang

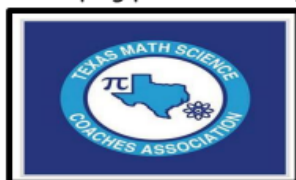
ABOUT THE CLASS

Course mission: Middle School Math Competition Class provides engaging math programs to middle school students of all ability levels to build confidence and improve attitudes about math and problem solving.



AMC8 and MATHCOUNTS are national mathematics competitions that build problem solving skills. The students will be building their knowledge of Algebra, Geometry, and other subjects. Learning AMC8 and MATHCOUNTS will help apply the knowledge while

developing problem solving skills.



TMSCA and UIL are similar as they cover many areas of middle school math. This includes Algebra, Geometry, Probability, and also number skills. The students will become faster at answering problems and find success in school competitions when they learn and practice.

ABOUT THE TEACHER

Mr. Wang has ten years of coaching experience in AMC8, MATHCOUNTS and TMSCA/UIL. As a head coach of MATHCOUNTS, he led the Willow Wood Junior High School math team to participate in MATHCOUNTS State Competition three times. In the year 2019, the school team was honored the sixth-place spot in the state competition. Now Mr. Wang continues to teach Math in Hua Xia Chinese School for the eighth year with his coaching experience.



Time: Saturday 2:00 ~ 4:00 pm (On Campus)

Sunday 2:00 ~ 4:00 pm (Online)



Instructor: 汪宝宏老师

SAT Math

When: Saturday 10:00~12:00pm Fall Semester

Boost Your SAT Math Score!

Struggling with SAT Math? We've got you covered! Join our SAT Math Training Class and turn math into your strongest subject!

Why Join Our Class?

- ✓ **Expert Guidance:** Learn from math tutor Mr. Wang with proven success.
- ✓ **Score Improvement:** Guaranteed strategies to improve accuracy and speed.
- ✓ **Targeted Curriculum:** Master algebra, geometry, data analysis, and advanced math concepts.
- ✓ **Interactive Learning:** Practice real SAT problems with step-by-step solutions.
- ✓ **Personalized Support:** Small class sizes and one-on-one feedback.



Program Includes:

- 📅 Full SAT Math practice tests with instant feedback.
- ⚡ Tricks to solve complex problems in seconds.
- 📊 Review of the most commonly tested math concepts.
- 🎯 Confidence-building tips for test day.



This class is good for 8-11th grade students who have learned AMC8, or have some Algebra 1 and Geometry background.

Don't let math hold you back!

Sign up today and start your journey to a higher SAT Math score!

Limited spots available—secure yours now!

Texas Algebra I

德州官方课程体系 (TEKS 对标)

夯实数学基础 · 衔接美国高中课程 · 冲刺 STAAR 考试



对标 TEKS 标准
Aligned with
TEKS Standards



强化逻辑思维
Strengthen
Logical Thinking



培养问题解决能力
Develop Problem
Solving Skills



为未来课程做好准备
Prepare for Geometry,
Algebra II & Beyond

课程介绍 / Course Description

本课程严格依据 Texas Essential Knowledge and Skills (TEKS) 标准设计，帮助学生系统掌握 Algebra I 核心知识，培养数学建模能力、逻辑推理能力和问题解决能力，为 Texas STAAR, Geometry, Algebra II 及更高阶数学课程奠定坚实基础。

This course is designed in full alignment with the Texas Essential Knowledge and Skills (TEKS) standards. It helps students master the core concepts of Algebra I, develop mathematical modeling, logical reasoning, and problem-solving skills, and build a solid foundation for success in the Texas STAAR, Geometry, Algebra II, and beyond.

课程大纲 / Course Outline (TEKS-Aligned)

- 1 Foundations of Algebra
- 2 Linear Equations, Inequalities & Systems
- 3 Functions and Function Representations
- 4 Linear Functions and Modeling
- 5 Exponential Functions
- 6 Polynomial Operations
- 7 Factoring Techniques
- 8 Quadratic Functions and Equations
- 9 Data Analysis & Scatterplots
- 10 Mathematical Modeling
- 11 STAAR Algebra I Review



教师介绍 / About The Teacher

Dr. Xu / 徐婷博士

Dr. Xu has been passionately dedicated to university teaching for 15 years, specializing in Engineering, Computer Science, and Mathematics. Benefitted from her profound background with a Ph.D. in Engineering, she has advanced her academic global impact as a visiting professor in Louisiana and at the University of Texas at Austin (UT Austin). By seamlessly integrating her cross-disciplinary expertise in engineering applications, algorithmic computing, and foundational mathematics, Dr. Xu is a seasoned educator who excels at translating complex, abstract theories into structured, practical knowledge. She is a passionate, visionary mentor committed to fostering the next generation of technical innovators.

徐老师拥有工学博士学位及15年丰富的大学教学经验，精通工程、计算机与数学等多个核心学科领域。她曾是美国路易斯安那及德克萨斯大学奥斯汀分校 (UT Austin) 担任访问教授，具备深厚的国际学术视野。徐老师教学严谨而富有激情，擅长将工程实际应用、计算机算法思维与基础数学逻辑完美结合。通过将复杂的抽象理论转化为结构化、易懂的实践知识，她不仅注重培养学生的逻辑思维，更致力于启发学生的创新能力，深受大学子的尊敬与爱戴。



工学博士
Ph.D. in
Engineering



访问教授经历
Visiting Professor
Experience



15年大学教学经验
15 Years of University
Teaching

适合学生 / Ideal For



6-8 年级学生
6th - 8th Grade Students



计划参加 STAAR 考试的学生
Students Preparing for
STAAR Algebra I



即将学习 Algebra I 的学生
Students Planning to Take
Algebra I



希望提升数学能力的学生
Students Seeking to
Strengthen Math Skills

课程特色 / Why Choose Us



小班教学
Small Class
Instruction



阶段性测评
Progress
Assessments



个性化辅导
Personalized
Support



课堂练习与
课后辅导
Class Practice &
Homework Help



升学规划
指导
College Prep
Guidance



中英双语
支持
Bilingual
Support

CBE

(Credit By Exam)

数学跳级考试课程

5年级跳6年级 · 省时省费 · 加速学业进程



权威考试
官方认证考试



能力证明
证明已有知识水平



跳级加速
跳过硬关直接升学



节省时间
节省学习与费用

课程介绍 / Course Description

本课程针对希望通过官方 CBE (Credit By Exam) 考试实现数学跳级的学生设计。学生通过参加六年级数学 CBE 考试, 证明其已掌握六年级数学知识与技能, 从而跳过六年级课程, 直接升入七年级学习, 节省时间与费用, 加速学业进程。

This course is designed for 5th grade students who aim to advance to 7th grade by passing the official 6th Grade Math CBE (Credit By Exam) test. By demonstrating mastery of 6th grade math standards, students can skip 6th grade math courses and move directly to 7th grade, saving time and accelerating their academic progress.

考试科目 / CBE Exam Offered

六年级数学 / 6th Grade Mathematics

- 01 比率与比 / Ratios and Rates
- 02 整数运算 / Arithmetic with Whole Numbers
- 03 分数运算 / Arithmetic with Fractions
- 04 小数运算 / Arithmetic with Decimals
- 05 比例与百分数 / Ratios, Proportions, and Percentages
- 06 代数基础 / Expressions and Equations
- 07 不等式 / Inequalities
- 08 比例关系 / Proportional Relationships
- 09 面积、表面积与体积 / Area, Surface Area, and Volume
- 10 统计与概率 / Statistics and Probability
- 11 坐标平面与图形 / Coordinate Plane and Geometry

教师介绍 / About The Teacher

Dr. Xu / 徐婷博士

Dr. Xu has been passionately dedicated to university teaching for 15 years, specializing in Engineering, Computer Science, and Mathematics. Benefitted from her profound background with a Ph.D. in Engineering, she has advanced her academic global impact as a visiting professor in Louisiana and at the University of Texas at Austin (UT Austin). By seamlessly integrating her cross-disciplinary expertise in engineering applications, algorithmic computing, and foundational mathematics, Dr. Xu is a seasoned educator who excels at translating complex, abstract theories into structured, practical knowledge. She is a passionate, visionary mentor committed to fostering the next generation of technical innovators.

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工学博士
Ph.D. in
Engineering

访问教授经历
Visiting Professor
Experience

15年大学教学经验
15 Years of University
Teaching

课程特色 / Course Features

- ☑ 专注六年级数学知识体系, 精准备考 CBE
- ☑ 系统梳理考点, 强化高频题型训练
- ☑ 模拟考试实战演练, 提升应试能力
- ☑ 个性化学习计划, 高效突破目标

适合学生 / Ideal For

- ☑ 目前就读5年级, 数学能力优秀的学生
- ☑ 希望通过 CBE 考试跳过六年级数学课程的学生
- ☑ 希望节省时间与费用, 加速升学进程的学生
- ☑ 目标进入更高年级, 追求学术挑战的学生