📘 Geometry Prep Course Syllabus

Duration: 3 weeks (3 sessions/week)
Target Students: Rising 9th graders preparing for high school Geometry
Goal: Build foundational geometry skills and develop confidence before starting high school math

WEEK 1: Geometry Basics & Angle Relationships

🧠 Session 1: Geometry Foundations
- Points, lines, segments, rays
- Planes and intersections
- Geometry notation and symbols
- Measuring segments (ruler practice)
- Practice: Naming and identifying geometric figures

📐 Session 2: Types of Angles & Measuring Angles
- Acute, obtuse, right, straight angles
- Angle notation and measurement
- Using a protractor
- Practice: Estimating and measuring angles

🔍 Session 3: Angle Relationships
- Adjacent, vertical, complementary, supplementary angles
- Practice problems & mini puzzles

WEEK 2: Triangles & Polygons

🔺 Session 1: Triangle Basics
- Classifying triangles by sides and angles
- Triangle angle sum theorem
- Practice: Solving for missing angles

📏 Session 2: Introduction to Polygons
- Naming polygons (up to 10 sides)
- Interior angle sum formula
- Regular vs. irregular polygons
- Practice: Find missing angles in polygons

🧩 Session 3: Triangle Inequality & Real-Life Shapes
- Triangle inequality theorem
- Drawing and constructing triangles
- Activity: Create your own shape puzzle

WEEK 3: Perimeter, Area & Volume

📐 Session 1: Perimeter & Area (2D Figures)

- Squares, rectangles, triangles, parallelograms, trapezoids
- Practice: Word problems involving real-life scenarios

🎲 Session 2: Volume & Surface Area (3D Figures)

- Cubes, rectangular prisms, cylinders
- Volume vs. surface area
- Practice: Solve problems using visual aids

🧠 Session 3: Mixed Practice & Geometry in Architecture

- Challenge problems combining area and perimeter
- Mini project: Design a “tiny house” floor plan using geometric shapes