GEOMETRY: SESSION 1

Course Description

This course is designed for students to use problem solving and real-world applications to gain the knowledge of geometric concepts and their practical uses. In geometry, we study the rules of the spaces and objects in our world. Geometry lets us make accurate predictions about the sizes of triangles, circles, and rectangles, which lets us calculate, design, and build. Geometry helps architects design studios, farmers buy the right amount of seeds for their land, engineers build houses, and pilots calculate the amount of time they need to fly to reach another city. We use geometry to calculate how much paint we need to buy to cover a wall and the exact angle we should use to launch a rocket to hit a distant target. In this course, we also study the relationships that exist between lines and angles. Urban planners study lines and angles to efficiently arrange houses, buildings, roads, and highways. Our street maps, water supply, and electrical connections all depend on these precise geometric calculations. How much space is inside a three-dimensional object? You may not realize you are using principles of geometry when you are getting ready for a trip and you need to calculate how to fit two adults, three kids, four suitcases, and a dog into your car. This course is the first half of Geometry and focuses on the basics of geometry, parallel and perpendicular lines, triangles, congruence, triangle relationships, polygons, and quadrilaterals. This course will culminate with a Final Exam.

Prerequisite

Algebra 1: Session 1 & Algebra 1: Session 2

Credit Requirement Area

Math

Learning Objectives

- Students will identify angles, rays, line segments, and points, based on the undefined notions of point, line, and distance along a line.
- Students will determine if figures are congruent.
- Students will calculate distances and angles created by parallel lines.
- Students will solve equations for an unknown angle in a figure using facts about angle relationships.
- Students will use the definition of congruence to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
- Students will explain how the criteria for triangle congruence follow from the definition of congruence.
- Students will describe objects using geometric shapes, their measures, and their properties.
- Students will use formulas for the area of polygons to solve problems.

Suggested Weekly Schedule

Week	Graded Activities	Suggested Due Date	% Points
1	Assessment: The Basics of Geometry	Friday of Week 1	100%
Week 1 Total Percentage Towards Final Grade			**16%**
2	Assessment: Parallel and Perpendicular	Friday of Week 2	100%
Week 2 Total Percentage Towards Final Grade			**16%**
3	Assessment: Triangles, Congruence, and Other Relationships	Friday of Week 3	100%

Week	Graded Activities	Suggested Due Date	% Points
Week 3 Total Percentage Towards Final Grade			**16%**
4	Assessment: Triangle Relationships	Friday of Week 4	100%
Week 4 Total Percentage Towards Final Grade			**16%**
5	Assessment: Polygons and Quadrilaterals	Friday of Week 5	100%
Week 5 Total Percentage Towards Final Grade			**16%**
6	Final Exam: Geometry Session 1	Friday of Week 6	100%
Week 6 Total Percentage Towards Final Grade			**20%**
WEIGHTED TOTAL			**100%**