

FRANKLIN-SIMPSON HIGH SCHOOL

Course Name: Geometry **Unit Name:** There is No Road to Royal Geometry

Quality Core Objectives:

Unit 1 Foundations of Geometry: There Is No Royal Road to Geometry	
B.1. Mathematical Processes	d. Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly
	f. Make mathematical connections among concepts, across disciplines, and in everyday experiences
C.1. Logic and Proof	a. Use definitions, basic postulates, and theorems about points, segments, lines, angles, and planes to write proofs and to solve problems
	b. Use inductive reasoning to make conjectures and deductive reasoning to arrive at valid conclusions
D.1. Points, Lines, Planes, and Space	a. Identify and model plane figures, including collinear and noncollinear points, lines, segments, rays, and angles using appropriate mathematical symbols
	b. Identify vertical, adjacent, complementary, and supplementary angle pairs and use them to solve problems (e.g., solve equations, use in proofs)
E. Study Skills and Test Taking (From English 10 standards)	a. Apply active reading, listening, and viewing techniques by taking notes on classroom discussions, lectures, oral and/or video presentations, or assigned at-home reading, and by underlining key passages and writing comments in journals or in margins of texts, where permitted
	b. Demonstrate organizational skills such as keeping a daily calendar of assignments and activities and maintaining a notebook of class work

Purpose of the Unit: To name and sketch geometric figures, use postulates to identify congruent segments, find lengths of segments, name angles, measure angles, classify angles, and use inductive reasoning to make and test conjectures.

Prerequisites: Students should have a good knowledge of concepts taught in Algebra I (particularly simplifying expressions and solving equations).

Daily Lesson Guide

Day	Lesson Content and Objectives	Focus Questions	Critical Thinking (High Yield / Literacy /LTF/etc.)	Engagement	Assessment and/or Accommodations
1	E.1.a, E.1.b	How do I take notes in Geometry? How do I construct a Geometry folder?	Use Appropriately Tools Strategically – Students will learn how a Geometry folder can help them in this course.	Clear/Modeled Expectations (Folder Examples) Personal Response (Exit Slip)	Opener – ACT (Math Vocabulary p104-105) Exit Slip – Priority Pyramid
2	B.1.d, C.1.a, D.1.a	How do I geometric figures? How do I sketch intersections involving lines and/or planes?	Attend to Precision – Students will make explicit use of terms relating to points, lines, and planes.	Construct Viable Arguments and Critique the Reasoning of Others (Investigating Geometry Activity)	Opener – ACT (Factors and Multiples p106-107) Investigating Geometry Activity: Line Segments and Rays Homework – p5-8 (1, 5-7, 10, 11, 13-16, 20-38 even, 39-46)
3	B.1.f, C.1.a, D.1.a	How do I apply the Ruler Postulate? How do I apply the Segment Addition Postulate? How do I find the length of a segment? How do I compare segments for congruence?	Reason Abstractly and Quantitatively – Students will create a coherent representation of segment length algebraically.	Novelty and Variety (Math and History Application)	Opener – ACT (PreAlgebra Question) Math and History Application Homework – p12-14 (1-5, 9-11, 16-36)
4	B.1.d, C.1.a, D.1.a	How do I name angles? How do I measure and classify angles? How do I find angle measures? How do I identify congruent angles?	Use Appropriate Tools Strategically – In addition to using rulers and protractors, students will use a compass to measure and draw line segments, angles, and bisectors of segments and angles.	Novelty and Variety (Construction) Nonlinguistic Representation (Construction)	Opener – ACT (PreAlgebra Question) Construction – Segment Bisector and Angle Bisector Angle Graphic Organizer Homework – p28-31 (1, 2, 4-6, 8-10, 18-21, 48)

5	C.1.a, D.1.a	How do I name angles? How do I measure and classify angles? How do I find angle measures? How do I identify congruent angles?	Attend to Precision – Students will state the meaning of the different angles and make use of the right angle and the symbol for congruence.	Clear/Modeled Expectations (Example Problems)	Opener – ACT (PreAlgebra Question) Unit One Quiz (Summative) Homework – p28-32 (24, 26-28, 30-32, 34-42 even, 43, 49-63)
6	B.1.f, C.1.a, D.1.b	How do I identify and find measures of complements and supplements? How do I identify and find measures in angle pairs?	Attend to Precision – Students will explicitly define and use terms for angles.	Learning with Others (Interdisciplinary Application) Construct Viable Arguments and Critique the Reasoning of Others (Interdisciplinary Application)	Opener – ACT (PreAlgebra Question) Interdisciplinary Application – Refraction Homework – p38-41 (1, 2, 5, 7, 11, 15, 16, 19, 25-60, 33-45 odd, 48-56)
7	C.1.b	How do I describe a visual pattern? How do I describe a number pattern? How do I make and test a conjecture? How do I find a counterexample?	Look For and Make Use of Structure – Students will discern numeric patterns in geometric figures as well as use counterexamples.	Novelty and Variety (Inductive Reasoning Activity) Authenticity (Inductive Reasoning Activity)	Opener – ACT (PreAlgebra Question) Inductive Reasoning Activity Unit One Review
8	B.1.d, B.1.f, C.1.a, C.1.b, D.1.a, D.1.b	How do I identify and name geometric figures? What are congruent segments? How do I find the measure of geometric figures? How do you use inductive reasoning in mathematics?		Clear/Modeled Expectations (Unit One Assessment)	Unit One Assessment (Summative)
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