

High School Syllabus

Department: Mathematics
Course Title: Geometry

Course #: 40421X

DESCRIPTION OF COURSE: Geometry students will learn geometric terms and will use both inductive and deductive reasoning in doing the following: solving lengths of segments and measures of angles, as well as completing direct and indirect proofs. Students will use logic, ratios, and Algebra 1 skills to solve multi-step geometric problems. In addition, students will understand proofs, logic statements, perpendicular and parallel lines and planes, congruent and similar polygons, right triangles, trigonometric ratios, circles and arcs, area, volumes of plane and solid figures, transformations, and compound and conditional probabilities. Assessments will include homework, classwork, quizzes, tests, and cooperative learning activities requiring problem-solving skills. Students will take the Geometry final exam at the end of the course.

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ELIGIBLE CONTENT
1. Tools of Geometry	13 days	CC.2.3.7.A.1, CC.2.3.7.A.2, CC.2.3.HS.A.3, CC.2.3.HS.A.4, CC.2.3.HS.A.11, CC.2.3.HS.A.13, CC.2.3.HS.A.14 G.1.3.1.1, G.1.3.1.2, G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.1.2.1, G.2.1.2.3, G.2.1.2.2, G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.2.3.2.1, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.1.8.E.4, 2.3.HS.A.13, 2.9.8.A, 2.9.8.C, 2.9.G.C, 2.9.11.A, 2.9.G.A
2. Reasoning and Proof	5 days	CC.2.3.HS.A.3, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.11.A, 2.9.G.A
3. Parallel and Perpendicular Lines	13 days	CC.2.3.HS.A.1, CC.2.3.HS.A.3, CC.2.3.HS.A.11, CC.2.3.HS.A.14 G.1.3.1.1, G.1.3.1.2, G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.1.2.1, G.2.1.2.3, G.2.1.2.2, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.8.C, 2.9.A1.A, 2.9.A2.A, 2.9.11.A, 2.9.G.A, 2.9.11.C, 2.9.G.C
4. Transformations	12 days	CC.2.3.HS.A.1, CC.2.3.HS.A.2, CC.2.3.HS.A.3, CC.2.3.HS.A.5, CC.2.3.HS.A.11, CC.2.3.HS.A.14 G.1.3.1.1, G.1.3.1.2, G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.1.2.1, G.2.1.2.3, G.2.1.2.2, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.B, 2.9.8.C, 2.9.11.A, 2.9.G.A
5. Congruent Triangles	12 days	CC.2.3.HS.A.3, CC.2.3.HS.A.6, CC.2.3.HS.A.14

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ELIGIBLE CONTENT
		G.1.3.1.1, G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.1.3.2.1, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.G.A, 2.9.G.B, 2.9.11.A, 2.9.11.B, 2.9.G.B
6. Relationships Within Triangles	10 days	CC.2.3.HS.A.3, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.G.A
7. Quadrilaterals	12 days	CC.2.3.HS.A.3, CC.2.3.HS. A.11, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.1.2.1, G.2.1.2.3, G.2.1.2.2, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.G.A, 2.9.8.C, 2.9.11.A, 2.9.11.C, 2.9.8.A
8. Similarity	8 days	CC.2.3.HS.A.3, CC.2.3.HS.A.5, CC.2.3.HS.A.6, CC.2.3.HS.A.14 G.1.3.1.1, G.1.3.1.2, G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.11.A, 2.9.11.B, 2.9.G.A
9. Right Triangles and Trigonometry	10 days	CC.2.3.HS.A.3, CC.2.3.HS.A.7, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.11.A, 2.9.G.A
10. Area	15 days	CC.2.3.HS.A.3, CC.2.3.HS.A.9, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.2.2.3.1, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.G.A
11. Surface and Volume of Solids	12 days	CC.2.3.HS.A.3, CC.2.3.HS.A.12, CC.2.3.HS.A.13, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3, G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.2.3.2.1, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.G.A
12. Circles	10 days	CC.2.3.HS.A.3, CC.2.3.HS.A.8, CC.2.3.HS.A.14 G.1.2.1.1, G.1.2.1.2, G.1.2.1.3, G.1.2.1.4, G.1.2.1.5, G.1.3.2.1, G.2.2.1.1, G.2.2.1.2, G.2.2.2.1, G.2.2.2.2, G.2.2.2.3, G.2.2.2.4, G.2.2.2.5, G.1.1.1.1, G.1.1.1.2, G.1.1.1.3, G.1.1.1.4, G.2.2.3.1, G.2.2.4.1, G.2.3.1.1, G.2.3.1.2, G.2.3.1.3 2.9.8.A, 2.9.11.A, 2.9.G.A

RESOURCES: Prentice Hall Mathematics Pennsylvania Geometry, Pearson Education, Inc. 2009

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