



Course Description - Geometry

Geometry is for students and parents who prefer a dedicated geometry course...yet want Saxon's proven methods. This course covers triangle congruence, postulates and theorems, surface area and volume, two-column proofs, vector addition, and slopes and equations of lines, Saxon features all the topics covered in a standard high school geometry course. (120 Lessons, 12 Investigations, and 15 Labs)

Table of Contents – Geometry

Lesson	Title
1	Points, Lines, and Planes
2	Segments
3	Angles
4	Postulates and Theorems About Points, Lines, and Planes
5	More Theorems About Lines and Planes
6	Identifying Pairs of Angles
7	Using Inductive Reasoning
8	Using Formulas in Geometry
9	Finding Length: Distance Formula
10	Using Conditional Statements
Investigation 1	Transversals and Angle Relationships
11	Finding Midpoints
12	Proving Lines Parallel
13	Introduction to Triangles
14	Disproving Conjectures with Counterexamples
15	Introduction to Polygons
16	Finding Slopes and Equations of Lines
17	More Conditional Statements
18	Triangle Theorems
19	Introduction to Quadrilaterals
20	Interpreting Truth Tables
Investigation 2	Proving the Pythagorean Theorem
21	Law of Detachment and Syllogism

22	Finding Areas of Quadrilaterals
23	Introduction to Circles
24	Algebraic Proofs
25	Triangle Congruence: SSS
26	Central Angles and Arc Measures
27	Two Column Proofs
28	Triangle Congruence: SAS
29	Using the Pythagorean Theorem
30	Triangle Congruence: ASA and AAS
Investigation 3	Exploring Angles of Polygons
31	Flowchart and Paragraph Proofs
32	Altitudes and Medians of Triangles
33	Converse of the Pythagorean Theorem
34	Properties of Parallelograms
35	Finding Arc Lengths and Areas of Sectors
36	Right Triangle Congruence Theorems
37	Writing Equations of Parallel and Perpendicular Lines
38	Perpendicular and Angle Bisectors of Triangles
39	Inequalities of Triangles
40	Finding Perimeters and Areas of Composite Figures
Investigation 4	Inequalities in Two Triangles
41	Ratios, Proportions, and Similarity
42	Finding Distance from a Point to a Line
43	Chords, Secants, and Tangents
44	Applying Similarity
45	Introduction to Coordinate Proofs
46	Triangle Similarity: AA, SSS, SAS
47	Circles and Inscribed Angles
48	Indirect Proofs
49	Introduction to Solids
50	Geometric Mean
Investigation 5	Nets
51	Properties of Isosceles and Equilateral Triangles
52	Properties of Rectangles, Rhombuses, and Squares
53	45 Degree- 45 Degree- 90 Degree Right Triangles
54	Representing Solids
55	Triangle Midsegment Theorem
56	30 degree - 60 Degree -90 Degree Right Triangles
57	Finding Perimeter and Area with Coordinates
58	Tangents and Circles, Part 1
59	Finding Surface Areas and Volumes of Prisms

60	Proportionality Theorems
Investigation 6	Geometric Probability
61	Determining if a Quadrilateral is a Parallelogram
62	Finding Surface Areas and Volumes of Cylinders
63	Introduction to Vectors
64	Angles Interior to Circles
65	Distinguishing Types of Parallelograms
66	Finding Perimeters and Areas of Regular Polygons
67	Introduction to Transformations
68	Introduction to Trigonometric Ratios
69	Properties of Trapezoids and Kites
70	Finding Surface Areas and Volumes of Pyramids
Investigation 7	Trigonometric Ratios
71	Translations
72	Tangents and Circles, Part 2
73	Applying Trigonometry: Angles of Elevation and Depression
74	Reflections
75	Writing the Equation of a Circle
76	Symmetry
77	Finding Surface Areas and Volumes of Cones
78	Rotations
79	Angles Exterior to Circles
80	Finding Surface Areas and Volumes of Spheres
Investigation 8	Patterns
81	Graphing and Solving Linear Systems
82	More Applications of Trigonometry
83	Vector Addition
84	Dilations
85	Cross Sections of Solids
86	Determining Chord Length
87	Area Ratios of Similar Figures
88	Graphing and Solving Linear Inequalities
89	Vector Decomposition
90	Composite Transformations
Investigation 9	Tessellations
91	Introduction to Trigonometric Identities
92	Quadrilaterals on the Coordinate Plane
93	Representing Solids: Orthographic Views
94	Law of Sines
95	Equations of Circles: Translating and Dilating
96	Effects of Changing Dimensions on Perimeter and Area

97	Concentric Circles
98	Law of Cosines
99	Volume Ratios of Similar Solids
100	Transformation Matrices
Investigation 10	Fractals
101	Determining Lengths of Segments Intersecting Circles
102	Dilation in the Coordinate Plane
103	Frustums of Cones and Pyramids
104	Relating Arc Lengths and Chords
105	Rotations and Reflections in the Coordinate Plane
106	Circumscribed and Inscribed Figures
107	Maximizing Area
108	Introduction to Coordinate Space
109	Non-Euclidean Geometry
110	Scale Drawings and Maps
Investigation 11	Golden Ratio
111	Finding Distance and Midpoint in Three Dimensions
112	Finding Area of Circle Segments
113	Symmetry of Solids and Polyhedra
114	Solving and Graphing Systems of Inequalities
115	Finding Surface Area and Volumes of Composite Solids
116	Secant, Cosecant, and Cotangent
117	Determining Line of Best Fit
118	Finding Areas of Polygons using Matrices
119	Platonic Solids
120	Topology Exploration: Observing Properties of Mobius Strips
Investigation 12	Polar Coordinates