

## **a-g Geometry**

### **Course Description:**

This is a course examining two and three dimensional geometric figures and their properties, geometric constructions, deduction and induction, making conjectures, drawing conclusions, and development of formal, logical proofs.

**Prerequisite(s):** Algebra 1

**Length of Course:** One year required for graduation

**Year in School Taken:** 9, 10, or 11

### **Course Objectives/Details:**

Coursework will include a thorough understanding and application of the following topics:

#### **Inductive vs. Deductive reasoning**

##### **Geometric Proofs:**

- Proofs by contradiction
- Proof and use of basic theorems involving congruence and similarity
- Proof and use of theorems involving parallel lines, quadrilaterals, and circles
- Pythagorean theorem

##### **Geometric Figures:**

- Identify and construct elements of geometric figures
- Perimeter, circumference, area, volume, lateral area, surface area of 2-D figures
- Volumes and surface areas of 3-D figures
- Use measures of sides and of interior and exterior angles to solve problems
- Complementary, supplementary, vertical, and exterior angles
- Use of angle and side relationships in problems with special right triangles
- Chords, secants, tangents, inscribed angles
- Inscribed and circumscribed polygons of circles
- Rotations, translations, and reflections

##### **Trigonometric Functions**

- Definitions
- Elementary relationships between functions
- Solving for an unknown length of a side of a right triangle

### **Methods for Evaluating Student Performance:**

Evaluation of student performance is based on individual abilities, interests, and talents. Methods by which student progress is assessed will be through a variety and/or combination of methods. The methods available include but are not limited to the following:

- Monthly review of work by education specialist (credentialed teacher),

Portfolios  
Parent facilitator and education specialist observation  
Current state mandated assessment tool,  
Norm and criterion referenced tests,  
Student demonstrations,  
Student grades,  
Student work samples  
Written examination  
Research projects

**Texts:**

Geometry

McDougal-Littell

Pupil's Edition Order Number:261654, ISBN: 978-0-618-59540-2,  
ISBN10: 0-618-59540-6

Teacher's Edition Order Number:261659, ISBN: 978-0-618-59557-0, ISBN10  
0-618-59557-0

Prentice Hall Geometry

Prentice Hall

ISBN: 0130625604

Geometry – *Geometry*

Authors: Ray C. Jurgensen, Richard G. Brown, John W. Jurgensen

Publisher: Houghton Mifflin Company

Dates Published: 1990, 1992, 1994, 1997, 2000

ISBN: 0-395-97727-4

Website of Publisher: [www.mcdougallittell.com](http://www.mcdougallittell.com)

Preview copy available at Ceres Learning Center (must be viewed in center, no check out)

Geometry, An Integrated Approach., Larson, Boswell, and Stiff

Heath, 1995

ISBN: 0669316652

Text used with Chalkdust Curriculum, each lesson is presented by an instructor on DVD

Website: [www.chalkdust.com](http://www.chalkdust.com)

Standards aligned, except a formula for standard 18, see correlations map.

Contact Mary Halter at [mhalter@connectingwaters.org](mailto:mhalter@connectingwaters.org) for California State Standard Correlations.

Saxon Geometry

Copyright: 2010, Saxon Publishers

Student Edition - ISBN 13: 9781602773059

OR Homeschool Kit - ISBN 13: 9781600329760

Saxon Advanced Math

Copyright: 1998, Saxon Publishers

ISBN: 1565771273

Advanced Math Solutions Manual

ISBN: 1565770420

**This text/program is a two year program!**

**Student can move to Saxon Advanced Math upon satisfactory completion of Saxon Algebra 2 (2<sup>nd</sup> or 3<sup>rd</sup> edition only). Student must complete all 129 lessons in entirety and satisfactorily complete all tests in course to move on to the Saxon Advanced Math program.**

**a-g Geometry credit is granted upon completion of lesson 90, which is year one of the two year Saxon Advanced Math program where the student completes one lesson every 2 days (odd numbered problems one day, even numbered the next).**

**a-g Trig/PreCal credit is granted upon completion of year two of the two year Saxon Advanced Math program. At the beginning of year two, student should go back to lesson 60 (repeating lessons 60-90) and complete lessons 60 through 127 of the Advanced Math Text, completing one lesson every 2 days (odd numbered problems one day, even numbered the next). During the last 9 weeks of the Trig/PreCal course, the student will move on to Saxon Calculus completing at least 27 lessons of the Saxon Calculus program. Student should be prepared for Calculus upon satisfactory completion.**

**\*\*NOTE\*\***The typical sequence course sequence for Saxon Math is:

Saxon Alg 1 8th grade (or 9th)

Saxon Alg 2 = a-g Alg 2 9th (or 10th)

Saxon Adv Math, year 1 of 2 = a-g Geom 10th (or 11th)

Saxon Adv Math/Calculus year 2 of 2 = a-g Trig/PreCal 11th (or 12th)

Saxon Calculus = a-g Calculus 12th

Geometry: Integration, Applications, Connections, by Burrill, Cummins, Kanold, Boyd, and Malloy

Glencoe McGraw-Hill, 1998

**Updated Version of the Text:** Glencoe Geometry, 2004 or Glencoe Geometry, 2005 CA edition 0078651069

Merrill Geometry: Applications and Connections

Glencoe McGraw-Hill, 1995

ISBN: 0028244389

**Preview copy available at Ceres Learning Center (must be viewed in center, no check out)**