AskDrCallahan Geometry Teacher's Guide

5th Edition
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Welcome to AskDrCallahan Geometry

Start Here!

1. Make sure you have all of the following.

- Geometry: Seeing, Doing, Understanding, 3rd Edition, by Harold R. Jacobs**.** ISBN: 0716743612
- Teacher's Guide for Geometry: Seeing, Doing, Understanding (Third Edition) ISBN: 0716756072
- Ruler, Protractor, Compass (for drawing circles)
- Scientific calculator or graphing calculator
- DVD set of five (5) DVDs

2. Both the teacher and the student should put in the first DVD and play the course introduction.

3. Review the syllabus. Perhaps make a copy of the syllabus and add some dates to help you plan. The syllabus is designed like most college courses, so using it will be excellent preparation for what is to come. (The syllabus can also be downloaded from the website under support/downloads.)

4. Begin the student working in the introduction and chapter 1. Using the syllabus as a guide, allow the student to move at a comfortable pace making sure they understand the material.

5. If you need help, start with a visit to the website at www.askdrcallahan.com/support.

6. Feel free to copy any of the material in this workbook as needed to teach the course.

Courses by AskDrCallahan

- Algebra 1
- Geometry
- Algebra II with trigonometry
  Can be used for Algebra II or Trig alone or as Precalculus
- Calculus 1 (Equivalent to Calculus 1 at most universities)

See website for more details.

Website: www.askdrcallahan.com

Email: products@askdrcallahan.com

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How to run the course

The best way to manage the course is for students to take one section of the text at a time and work through it in a logical fashion. We recommend watching one section of the DVD then working the problems in the corresponding section(s) of the textbook. Go back to the DVD and text examples as needed to make sure most of the problems can be easily worked and understood.

Before moving on to the next section, make sure the current section is understood. Be aware some sections are more complex than others – so things will vary.

If questions arise that are not answered – please email us. We will provide answers or other help as needed.

Pace

The syllabus has the projected dates we would use if we taught this material in a classroom meeting one day per week for two hours at a time. However, even in the classroom we will not always be on schedule since adjustments are always being made. You should not be overly concerned with following the schedule exactly – but use it as a guide. If you need to slow down – even significantly – to make sure the concepts are understood you are doing the right thing.

This course material is used in both the high school and college setting. The only difference is pace - a college course would typically do Geometry in a single semester.

Algebra reviews

It is critical to do the algebra reviews! Note the difficulty most students face in upper math courses is rarely the complexity of the course, but the lack of basic algebra skills. You will be rewarded for time spent on algebra!

Suggested problem set

The number of problems is somewhat misleading. Actually there are fewer problems than it appears since most of the textbook problems are actually pieces of the same problem. For instance, chapter 1 lesson 1 has the student working problems 1-16, but problems 2-16 all are part of the same problem. This is very common for this textbook and a nice feature since many problems are applied to the real world.

The syllabus lists suggested problems. Like the schedule, these problems are a suggested guide - what you might expect to see in a high school or college course. Work more or less as needed – however avoid the temptation (or negotiations) to skip most of the problems in a section. We have carefully chosen problems that need to be understood. It

is RARE that someone can just look over problems and say they know how to work them after looking at examples. Math is like music – it must be practiced to become proficient.

Also resist the temptation (some of us have) to assign ALL of the problems or all of the odd problems. While it is possible for a student to do all of the problems, the amount of time needed would be significant and likely impact other courses.

Geometry - Semester 1 Syllabus

Required Textbooks
- Geometry: Seeing, Doing, Understanding, 3rd Edition, by Harold R. Jacobs. ISBN: 0716743612
- Teacher's Guide for Geometry: Seeing, Doing, Understanding, Third Edition. ISBN: 0716756072

Study Points
Math is a subject that takes practice. It is recommended that you study every day, reading and working problems.

Note: 1.1 refers to Chapter 1 Lesson 1.

Week	Student Action	Assignment
1	Review DVD of the Introduction and 1.1-1.2	Work through the 7 exercises on the spotter. Read the section on Inductive Reasoning. 1.1: 1-16, 19-24 1.2: 1-19, 24-34
2	Review DVD of 1.3-1.5 and Ch 1 Algebra Review	1.3: 1-18, 19-22, 25-30 1.4: 1-19, 24-34 1.5: 1-12, 14,15 Ch 1 Algebra review: 1-25 odd, 34, 38, 45, 47, 50
3	Review DVD of 2.1-2.2	2.1: 1-13, 14, 16, 17, 19, 21-26, 27-29 2.2: 1-13, 22-23, 28-30, Set III puzzle
4	Review DVD of 2.3-2.4	2.3: 1-16, 26-28 2.4: 3-14, 15, 18-19, Set III puzzle
5	Review DVD of 2.5-2.6 and Ch 2 Algebra Review	2.5: 1-10, 16-18, 32-36 2.6: 1-7, 11-17, 21-23, 26-28, 41-42 Ch 2 Algebra review: 1-7 odd, 9-15 odd, 17, 19, 22, 26, 29, 31
6	Review DVD of 3.1-3.2	3.1: 1-5, 22, 25-30, 36-40 3.2: 1-15, 20-31, 37-41, 46-47
7	Review DVD of 3.3-3.4	3.3: 1-24, 34-40, 48-49 3.4: 1-23, 35, 36
8	Review DVD of 3.5-3.7, Ch.3 Algebra review, 4.1-4.2	3.5: 1-7, 15-22, 26-35, 40-45 3.6: 1-15, 21-39, 48 3.7: 1-16, 23-27, 43 Ch. 3 Algebra Review: 1-3, 7, 8-11, 13-16, 19, 20, 21-24 4.1: 1-22, 26-29 4.2: 1-19, 25-36
9	Review for Test 1	Take test 1 - chapter 1- 3
10	Review DVD of 4.3-4.6, Ch.4 Algebra	4.3: 1-15, 22-32 4.4: 1-17, 26-29

	review	4.5: 1-26, 34 4.6: 1-35 Ch. 4 Algebra Review: 1-10, 13, 15, 16, 19, 21, 22, 24
11	Review DVD of 5.1-5.4, Ch.5 Algebra review	5.1: 1-31, 33-46 5.2: 1-17, 26-29, 32-38 5.3: 1-18, 23-35, Set III 5.4: 1-20 Ch. 5 Algebra Review: 1-19
12	Review DVD of 6.1-6.6, Ch.6 Algebra review	6.1: 1-27 6.2: 1-16, 26-28 6.3:1-24 6.4: 1-16 6.5: 1-13, 24-30 6.6: 1-13, 18-22, 23-30 Ch. 6 Algebra Review: 1-20
13	Review for Test 2	Take test 2 - chapter 4- 6

Geometry - Semester 2 Syllabus

Required Textbooks
- Geometry: Seeing, Doing, Understanding, 3rd Edition, by Harold R. Jacobs. ISBN: 0716743612
- Teacher's Guide for Geometry: Seeing, Doing, Understanding, Third Edition. ISBN: 0716756072

Study Points
Math is a subject that takes practice. It is recommended that you study every day, reading and working problems.

Note: 1.1 refers to Chapter 1 Lesson 1.

Week	Student Action	Assignment
14	Review DVD of 7.1-7.6, Ch.7 Algebra review	7.1: 1-27 7.2: 1-23 7.3:1-21, 29-30 7.4: 1-25 7.5: 1-17 7.6: 1-13, 18-22, 23-30 Ch. 7 Algebra Review: 1-21, 23-31 odd
15	Review DVD of 8.1-8.4	8.1: 1-33, Set III 8.2: 1-20, Set III 8.3:1-32 8.4: 1-31, 38-44
16	Review DVD of 9.1-9.5 and Ch 9 Algebra Review	9.1: 1-19 9.2: 1-13, 17-29, Set III 9.3: 1-23, 40-45 9.4: 1-16, 23-24 9.5: 1-30 Ch 9 Algebra review: 1-15
17	Review for Test 3	Take test 3 - chapter 7- 9
18	Review DVD of 10.1-10.6 and Ch 10 Algebra Review	10.1: 1-26, 31-40 10.2: 1-19, 48-51 10.3: 1-17 10.4: 1-11, 19-24 10.5: 1-18, 40-50, Set III 1-6 (experiment) 10.6: 1-31 Ch 10 Algebra review: pg 425 1-9 odd, pg 426 1-25 odd
19	Review DVD of 11.1-11.7 and Ch 11 Algebra Review	11.1: 1-19 11.2: 1-17 11.3: 1-22, 38-41, Set III 1 and 2 11.4: 1-28

		11.5: 1-28, 45-47 11.6: 1-22, 42-46 11.7: 1-17 Ch 11 Algebra review: 1-30
20	Review DVD of 12.1-12.4 and Ch 12 Algebra Review (Ch 12.5 and 12.6 are skipped)	12.1: 1-26, 30-31 12.2: 1-23 12.3: 1-18, 40-42, 43 12.4: 1-19, Set III Ch 12 Algebra review: 1-23 odd
21	Review for Test 4	Take test 4 - chapter 10- 12
22	Review DVD of 14.1-14.6 and Ch 14 Algebra Review (Note - chapter 13 is skipped)	14.1: 1-17 14.2: 1-21, 33-39 14.3: 1-19, 29-40 14.4: 1-25, 49-51 14.5: 1-24, 31-33, 37-38 14.6: 1-17, 23-25, Set III
23	Review DVD of 15.1-15.8 and Ch 15 Algebra Review	15.1: 1-18, Set III 15.2: 1-19, 29-31 15.3: 1-18, 38-41 15.4: 1-25, 34-37, 50-53 15.5: 1-20, 33-37, Set III 15.6: 1-20, 34-35, Set III 15.7: 1-23, 44-45, Set III
24	Review for Test 5	Take test 5 - chapter 14-15

Geometry Test Grading Guide

Welcome teacher!

This test grading guide is designed to make the grading of tests as easy as possible for the parent while at the same time encouraging learning by the student.

When to take the tests

The tests should be taken after the student has completed the sections covered by the test – as laid out on the syllabus. The syllabus indicates how we would deliver the tests in a classroom environment, but you can give the test whenever the student is ready.

Note the tests appear to have a large number of problems, but like the homework these are really multiple part problems. In reality each letter (a, b, c, etc) in front of a set of problems represents a related problem set. Therefore, each test has at most nine geometry problem sets and a few algebra review problems.

How to take the tests

The tests problems come directly from the textbook so the problems should be very similar to the homework. The answers to the test are in the Teacher Guide under each chapters review section. It is recommended that the tests be taken open book and open notes. In addition, you might find it best to allow the student to work the test over a few days. In a college environment the students would have about 2 hours to take these tests.

How to grade

You will find the sheets used to grade the test following these notes. We recommend you grade CORRECT ANSWER ONLY. We also recommend two (or more) tries for problems the student misses on the test.

Here is how we do it. (See the example on the next page.)

First – we deliver the test, then grade for correct answer only. We give the student the grade with problems marked correct or incorrect. The initial grades may be low, but we encourage the student not worry about this yet.

Second – we allow the student to go back and attempt to correct the problems they missed. This method encourages them to learn from their mistakes. We then re-grade the problems they initially had wrong, giving partial credit for the accurate solutions.

We have included an example grading sheet showing a student who got 48 of 53 problems correct on the first try. Then on the retest they got the other five problems correct. We graded as giving them 50% of the original credit and adding it to the final grade.

Adjustments you can make

You may want to allow the student to try a third or fourth time. This is not cheating – the goal is to learn!

You might also want to adjust the partial credit on the rework. To adjust, use another number on line e of the grade sheet. (Using 80 instead of 50 would give 80% of the points for corrected problems.)

Filing and grade management

We know that each person has different filing requirements, so if you choose to not keep the grades in this solutions book feel free to copy the grade sheets for easier filing. The grading sheets are also available on the website under support/downloads.

Test Grade Sheet

Student _____EXAMPLE____

Course _____Geometry_____

Test Number _____1_____

Attempt # 1

a. Number of problems correct ___48___

b. Total number of problems ____53____

c. Grade (100*a/b) ____91____(round up to nearest integer)

Attempt #2

d. Number of problems fixed ____5____

e. Points added (50*d/b) ____5____

Test Grade

f. Final Grade (c + e) ____96____(round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Test Number _____

Attempt # 1

a. Number of problems correct _____

b. Total number of problems _____

c. Grade (100*a/b) _____(round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added (50*d/b) _____

Test Grade

f. Final Grade (c + e) _____(round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Test Number _____

Attempt # 1

a. Number of problems correct _____

b. Total number of problems _____

c. Grade (100*a/b) _____(round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added (50*d/b) _____

Test Grade

f. Final Grade (c + e) _____(round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Test Number _____

Attempt # 1

a. Number of problems correct _____

b. Total number of problems _____

c. Grade (100*a/b) _____(round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added (50*d/b) _____

Test Grade

f. Final Grade (c + e) _____(round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Test Number _____

Attempt # 1

a. Number of problems correct _____

b. Total number of problems _____

c. Grade (100*a/b) _____(round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added (50*d/b) _____

Test Grade

f. Final Grade (c + e) _____(round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Test Number _____

Attempt # 1

a. Number of problems correct _____

b. Total number of problems _____

c. Grade (100*a/b) _____(round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added (50*d/b) _____

Test Grade

f. Final Grade (c + e) _____(round up to nearest integer)

Geometry
Test 1

Total number of problems: 53

Instructions

- Work the following problems from the textbook chapter reviews.
- Check your answer where possible.

From Ch 1 Review (pgs 36-37)

a. Problems 4-8
b. Problems 9-14
c. Problems 18-26

From Ch 2 Review (pgs 71-74)

d. Problems 1-6
e. Problems 17-19
f. Problems 28-30

From Ch 3 Review (pgs 124-128)

g. Problems 4-9
h. Problems 17-20
i. Problems 34-36

Algebra Review Problems (taken from the Chapter Algebra Reviews)

Chapter 1: 22, 35, 42
Chapter 2: 4, 16, 27
Chapter 3: 18, 24

Geometry
Test 2

Total number of problems: 38

Instructions

- Work the following problems from the textbook chapter reviews.
- Check your answer where possible.

From Ch 4 Review (pgs 176-180)

a. Problems 25 -28
b. Problems 29 - 34

From Ch 5 Review (pgs 206-209)

c. Problems 5 - 8
d. Problems 15 -20
e. Problems 47- 48

From Ch 6 Review (pgs 250-254)

f. Problems 9-15
g. Problems 43-45
h. Problems 55

Algebra Review Problems (taken from the Chapter Algebra Reviews)

Chapter 4: 20, 25
Chapter 5: 17
Chapter 6: 15, 18

Geometry
Test 3

Total number of problems: 42

Instructions

- Work the following problems from the textbook chapter reviews.
- Check your answer where possible.

From Ch 7 Review (pgs 292-295)

a. Problems 1-8
b. Problems 17-18
c. Problems 41 - 49

From Ch 8 Review (pgs 325-329)

d. Problems 7 - 10
e. Problems 19 - 22

From Ch 9 Review (pgs 371-375)

f. Problems 4 - 7
g. Problems 27 - 32
h. Problems 37 - 38

Algebra Review Problems (taken from the Chapter Algebra Reviews)

Chapter 7: 26, 30
Chapter 9: 14

Geometry
Test 4

Total number of problems: 45

Instructions

- Work the following problems from the textbook chapter reviews.
- Check your answer where possible.

From Ch 10 Review (pgs 421- 424)

a. Problems 11 - 14
b. Problems 24 - 28
c. Problems 39

From Ch 11 Review (pgs 476-480)

d. Problems 15 - 18
e. Problems 29 - 34
f. Problems 56 - 60

From Ch 12 Review (pgs 523-526)

g. Problems 9 - 14
h. Problems 27 - 31

Algebra Review Problems (taken from the Chapter Algebra Reviews)

Chapter 10: pg 425 #8, pg 426 #24
Chapter 11: 21 - 25
Chapter 12: 10, 16

Geometry
Test 5

Total number of problems: 29

Instructions

- Work the following problems from the textbook chapter reviews.
- Check your answer where possible.

From Ch 14 Review (pgs 612-616)

a. Problems 4 - 14
b. Problems 18 - 20
c. Problems 39 - 43

From Ch 15 Review (pgs 684-688)

d. Problems 9 - 10
e. Problems 20 - 24
f. Problems 46 - 48

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