

AskDrCallahan

Geometry

Teacher's Guide

6th Edition
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Start Here

Welcome to AskDrCallahan Geometry

1. Make sure you have all of the following.
 - Geometry: Seeing, Doing, Understanding, 3rd Edition, by Harold R. Jacobs. ISBN: 0716743612 or ISBN: 978-1-61999-109-5.
 - Answers to Exercises for Geometry: Seeing, Doing, Understanding (Third Edition) ISBN: 978-1-61999-116-3.
 - Improved Test Bank for Geometry: Seeing, Doing, Understanding (Third Edition) ISBN: 978-1-61999-115-6.
 - Ruler, protractor, compass, and scientific calculator
 - Videos (Either online or set of 5 DVDs)
2. Teacher and student should watch the introduction video.
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 www.AskDrCallahan.com.
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 support at www.askdrcllahan.com.
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)
- Discovering the Entrepreneur in You (a business curriculum)

See website for more details.

Website: www.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.

How to get help

If questions arise, start by checking out website under SUPPORT. We have many of the questions answered there. If you cannot find help on the site, you can contact us at support@askdrclahan.com.

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.

Updates

We occasionally make updates to this teacher’s guide. You can always find the latest copy on our website at www.askdrclahan.com.

Geometry - Semester 1 Syllabus

Note: 1.1 refers to Chapter 1 Lesson 1.

Week	Student Action	Assignment
1	Watch video of the Introduction Watch video on Ch 1.1-1.5	Work through the 7 exercises on the spotter. 1.1: 1-16, 19-24 1.2: 1-19, 24-34 1.3: 1-18, 19-22, 25-30 1.4: 1-19, 24-34 1.5: 1-12, 14,15
2	Watch video on Ch. 1 Algebra Review Watch video on Ch. 2.1-2.2	Ch 1 Algebra review: 1-25 odd, 34, 38, 45, 47, 50 Chapter 1 Test 2.1: 1-13, 14, 16, 17, 19, 21-26, 27-29 2.2: 1-13, 22-23, 28-30, Set III puzzle
3	Watch video on Ch. 2.3-2.6	2.3: 1-16, 26-28 2.4: 3-14, 15, 18-19, Set III puzzle 2.5: 1-10, 16-18, 32-36 2.6: 1-7, 11-17, 21-23, 26-28, 41-42
4	Watch video on Ch. 2.5-2.6 Watch video on Ch. 2 Algebra review Watch video on Ch. 3.1-3.3	Ch 2 Algebra review: 1-7 odd, 9-15 odd, 17, 19, 22, 26, 29, 31 Chapter 2 Test 3.1: 1-5, 22, 25-30, 36-40 3.2: 1-15, 20-31, 37-41, 46-47 3.3: 1-24, 34-40, 48-49
5	Watch video on Ch. 3.4-3.7 Watch video on Ch. 3 Algebra review	3.4: 1-23, 35, 36 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 Chapter 3 Test
6	Watch video on Ch. 4.1-4.7 (4.7 is optional)	4.1: 1-22, 26-29 4.2: 1-19, 25-36 4.3: 1-15, 22-32 4.4: 1-17, 26-29 4.5: 1-26, 34 4.6: 1-35 4.7: 1-16
7	Watch video on Ch. 4 Algebra review	Ch. 4 Algebra Review: 1-10, 13, 15, 16, 19, 21, 22, 24 Chapter 4 Test

8	Watch video on Ch. 5.1-5.4 Watch video on 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 Chapter 5 Test
9	Watch video on Ch. 6.1-6.6 Watch video on Ch.6 Algebra review	6.1: 1-27 6.2: 1-16, 26-28 6.3:1-24 6.4: 1-16
10	Watch video on Ch. 6.5-6.6 Watch video on Ch. 6 Algebra review	6.5: 1-13, 24-30 6.6: 1-13, 18-22, 23-30 Ch. 6 Algebra Review: 1-20 Chapter 6 Test
11	Watch video on Ch. 7.1-7.6 Watch video on 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 Chapter 7 Test
12	Watch video on Ch. 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 Chapter 8 Test
13	Take Midterm	Midterm

Geometry - Semester 2 Syllabus

Note: 1.1 refers to Chapter 1 Lesson 1.

Week	Student Action	Assignment
14	Watch video on Ch. 9.1-9.5 Watch video on 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 Chapter 9 Test
15	Watch video on Ch. 10.1-10.6	10.1: 1-26, 31-40 10.2: 1-19, 48-51 10.3: 1-17 10.4: 1-11, 19-24
16	Watch video on Ch. 10.1-10.6 (again if needed) Watch video on Ch. 10 Algebra review	10.5: 1-18, 40-50, Set III 1-6 10.6: 1-31 Ch 10 Algebra review: pg 425 1-9 odd, pg 426 1-25 odd Chapter 10 Test
17	Watch video on Ch. 11.1-11.7 Watch video on 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
18	Watch video on Ch. 11.1-11.7 (Again if needed) Watch video on Ch. 11 Algebra review	11.5: 1-28, 45-47 11.6: 1-22, 42-46 11.7: 1-17 Ch 11 Algebra review: 1-30 Chapter 11 Test
19	Watch video on Ch. 12.1-12.4 Watch video on Ch. 12 Algebra review Ch. 12.5 and 12.6 are optional	12.1: 1-26, 30-31 12.2: 1-23 12.3: 1-18, 40-42, 43 12.4: 1-19, Set III 12.5: 5-7, 17-21. 39-44 12.6: 11-15, 35-37 Ch 12 Algebra review: 1-23 odd Chapter 12 Test
20	Watch video on Chapter 13.1-13.6 NOTE: These sections were originally optional therefore these sections are not covered on the DVDs. To get access go to the website or find the videos at www.askdrallah.com/support .	13.1: 1-6, 15-17 13.2: 1-2, 6-12 13.3: 1-2, 20-26, 31-33 13.4: 1-12, 55-56 13.5: 1-5, 6 13.6: 1-5, 6-13 Chapter 13 Test

21	Watch video on Ch. 14.1-14.6	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 Chapter 14 Test
22	Watch video on Ch. 15.1-15.8 (Ch. 15.9 is optional)	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 15.8: 6-15, 29-36 15.9: 1-9, 12-19 Chapter 15 Test
23	Watch video on Ch. 16.1-26.4 NOTE: These sections were originally optional therefore these sections are not covered on the DVDs. To get access go to the website or find the videos at www.askdrallah.com/support .	16.1: 1-15 16.2: 1-6, 47-48 16.3: 1-10 16.4: 1-9 Chapter 16 Test
24	Final Exam	Final Exam

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.

How to take the tests

The answers to the test are in the Test Bank under each chapters review section. We recommend that the tests be taken open book and open notes. In a college environment the students would have about 50 minutes to take these tests. The midterm and final will take twice as long.

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) attempts for problems the student misses on the test.

Count each part of a problem as one problem. So if you have problem 1 with a, b, c, and d, count it as 4 problems. The table below gives you the actual number of problems on each test.

First - We recommend you 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 – 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 grade sheet showing how we do it. We start with 70% back on the first attempt and 50% back on the second attempt.

Test Bank Problems

Test	Actual Problem Count
1	23 (2 extra credit)
2	47
3	38
4	36
5	21
6	28
7	21
8	31
Midterm	75
9	24
10	26
11	21
12	25
13	26
14	25
15	27
16	31
Final	80

Adjustments you can make

You may want to allow the student more attempts to correct their work. This is not cheating – the goal is to learn! But if you are not seeing progress with a few attempts a chapter review is in order.

You might also want to adjust the amount of credit you provide on the rework. To adjust, use another number as the multiplier on lines e and g of the grade sheet. (Using 70 and 50 change to what you need.)

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

Chapter Test EXAMPLE

Attempt # 1

- a. Number of problems correct 30
- b. Total number of problems 50
- c. Grade ($100 \cdot a/b$) 60 (round up to nearest integer)

Attempt #2

- d. Number of problems fixed 10
- e. Points added ($70 \cdot d/b$) 14 (round up to nearest integer)

Attempt #3

- f. Number of problems fixed 8
- g. Points added ($50 \cdot f/b$) 8 (round up to nearest integer)

Test Grade

- h. Final Grade ($c + e + g$) 82 (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 1

Attempt # 1

- a. Number of problems correct _____
- b. Total number of problems 23
- c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

- d. Number of problems fixed _____
- e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

- f. Number of problems fixed _____
- g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

- h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 2

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 47

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 3

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 38

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 4

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 36

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 5

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 21

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 6

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 28

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 7

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 21

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 8

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 31

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test MIDTERM

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 75

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 9

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 24

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 10

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 26

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 11

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 21

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 12

Attempt # 1

- a. Number of problems correct _____
- b. Total number of problems 25
- c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

- d. Number of problems fixed _____
- e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

- f. Number of problems fixed _____
- g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

- h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 13

Attempt # 1

- a. Number of problems correct _____
- b. Total number of problems 26
- c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

- d. Number of problems fixed _____
- e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

- f. Number of problems fixed _____
- g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

- h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 14

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 25

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 15

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 27

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test 16

Attempt # 1

- a. Number of problems correct _____
- b. Total number of problems 31
- c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

- d. Number of problems fixed _____
- e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

- f. Number of problems fixed _____
- g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

- h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course Geometry

Chapter Test FINAL

Attempt # 1

a. Number of problems correct _____

b. Total number of problems 80

c. Grade ($100 \cdot a/b$) _____ (round up to nearest integer)

Attempt #2

d. Number of problems fixed _____

e. Points added ($70 \cdot d/b$) _____ (round up to nearest integer)

Attempt #3

f. Number of problems fixed _____

g. Points added ($50 \cdot f/b$) _____ (round up to nearest integer)

Test Grade

h. Final Grade ($c + e + g$) _____ (round up to nearest integer)

Test Grade Sheet

Student _____

Course _____

Chapter Test _____

Attempt # 1

a. **Number of problems correct** _____

b. **Total number of problems** _____

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

Attempt #2

d. **Number of problems fixed** _____

e. **Points added ($70 \cdot d/b$)** _____ (round up to nearest integer)

Attempt #3

f. **Number of problems fixed** _____

g. **Points added ($50 \cdot f/b$)** _____ (round up to nearest integer)

Test Grade

h. **Final Grade ($c + e + g$)** _____ (round up to nearest integer)