

AskDrCallahan

Algebra I

Teacher's Guide

1st Edition

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Welcome to AskDrCallahan Algebra 1

Start Here!

1. Make sure you have all of the following.

- Elementary Algebra , by Harold R. Jacobs. ISBN: 0716710471
- Elementary Algebra Teacher's Guide ISBN: 0716710757
- Scientific calculator (TI-30 or better)
- DVD set of five (5) DVDs

2. Both the teacher and the student should put in the first DVD and play the course introduction. Watch this section together.

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 further education. (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. You may customize the syllabus and move faster or slower to achieve the optimal learning environment for your student.

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

Courses by AskDrCallahan

- Algebra I
- Geometry
- Algebra II with trigonometry (Can be sold separately as either Algebra II or Trig only)
- Calculus 1 (Equivalent to Calculus 1 at most universities)

See website for more details.

Website: www.askdrcllahan.com

Email: products@askdrcllahan.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 like timing and amount of review needed may vary.

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

Pace

The syllabus provided demonstrates 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 for holidays, inclement weather day, etc. 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.

Suggested problem set

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 fewer problems as needed – however avoid the temptation (or negotiations) to skip most of the problems in a section. We have carefully chosen problems that demonstrate key concepts 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 to complete them would be significant and would likely impact the time available for other courses.

Calculators

For this course, students will need a TI-30 (or better) calculator. As this course has a focal point around learning to graph accurately, we discourage the use of the graphing capability in the TI-89 or higher calculators. However, since the TI-89 is what we recommend for our Algebra II with Trig and Calculus I courses, rather than purchase 2 calculators, we suggest going ahead and using a TI-89 or comparable calculator, but reserving the graphing function for checking answers after the student has tried the graph without a calculator.

For more information on calculators, as well as for a downloadable TI-89 Please visit:

www.askdrcllahan.com

Algebra I - Semester 1 Syllabus

Required Textbooks:

- Elementary Algebra, by Harold R. Jacobs. ISBN: 0716710471
- Elementary Algebra Teacher's Guide ISBN: 0716710757

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: Introduction and 1.1-1.4	Introduction 1.1: 1-10, 11, 13-16, 17, 19, 22 1.2: 1-10, 11-13, 16-17, 19, 22, 24 1.3: 1-12, 14, 15, 17, 19, 21 1.4: 1-11, 13, 15, 19,22
2	Review DVD: 2.1-2.3	2.1: 1-6,10,13-15 2.2: 1-17 2.3: 1-4,6-7
3	Review DVD: 2.4-2.6	2.4: 4,5,7,8,9,10,13,16 2.5: 2,4,6,8,9,10,15 2.6: 3,4,6,10,13,17
4	Review DVD: 3.1-3.5	3.1: 3,4,5,10,16 3.2: 3,4,5,7,10,15 3.3: 7,8,10,11 3.4: 1,2,6,7,8,9,14 3.5: 4,7,8,10,13,14,19
5	Review DVD: 3.6-3.7 Review for Test 1	3.6: 4,7,8,12,15 3.7: 2,6,8,9,14,15 Take Test 1 Chapters 1-3
6	Review DVD: 4.1-4.3	4.1: 4,7,11,13 4.2: 3,7,9,11,14 4.3: 4,7,11,12,17
7	Review DVD: 4.4-5.2	4.4: 2,3,6,11,14,15 4.5: 3,4,6,7,10,11,12 5.1: 3,4,7,8,10 5.2: 4,5,7,8,13,14
8	Review DVD: 5.3-5.5	5.3: 3,4,7,8,13,16 5.4: 1-5,10,13,14 5.5: 1-4,7,8,9,13
9	Review DVD: 5.6-5.8 Optional Activity 1	5.6: 2,3,4,5,6,7,9,14,15 5.7: 2,3,5,6,7,11,15

	(back of TG*)	5.8: 2,4,5,7,8
10	Review DVD: 6.1-6.4 Optional Activity 2 (back of TG)	6.1: 4,5,8,10,11 6.2: 2,4,5,7,8,9,10,11,17,19 6.3: 4,5,6,7,8,9,11,15,16,17 6.4: 1,4,5,7,9,10,11,14,16
11	Review DVD: 6.5-6.6 Review for Test 2	6.5: 4,5,6,7,8,12,14,15 6.6: 1,2,4,5,7,8,12,13,14 Take Test 2 Chapters 4-6
12	Review DVD: 7.1-7.4	7.1: 3,4,6,8,15,20-25 7.2: 1-3,5,7,8-12,21-25 7.3: 6,7,8,10,12,19,21,23 7.4: 1,3,4-6,9,10,14,15,18,21
13	Review DVD: 7.5-8.1	7.5: 2,4,9,19,21,22,23 7.6: 2,3,8-11,14,16,26 7.7**: 3,4,7,9,11 8.1: 3,4,6,10,13,15,17,26,27
14	Review DVD: 8.2-8.5	8.2: 5,6,7,8,10,12,15,17 8.3: 3,4,5,8,10,13,14,16 8.4: 3,4,5,8,10,13 8.5: 3,5,7,9,10,12,13,14,24,25
15	Review DVD: 8.6-8.7 Review for Test 3	8.6: 4,6,8,9,12 8.7: 1,2,5,6,7,8,9,11,15 Take Test 3 Chapters 7-8

* TG = Teacher's Guide

** Be aware that section 7.7 is started on Disk 2 and then finished on Disk 3

Algebra I - Semester 2 Syllabus

Required Textbooks:

- Elementary Algebra, by Harold R. Jacobs. ISBN: 0716710471
- Elementary Algebra Teacher's Guide ISBN: 0716710757

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
16	Review DVD: 9.1-9.4	9.1: 3,6,9,10,13,16 9.2: 4,6,8,9,13,15,17 9.3: 2,4,5,9,10,13 9.4: 3,7,8,11(a and c)
17	Review DVD: 9.5-9.7	9.5: 3,4,10,11 9.6: 1,2,5,9,16 9.7: 2,4,7,8,11,15
18	Review DVD: 10.1-10.5	10.1: 2,3,5,7,8,13 10.2: 3,4,6,9,10,12,15 10.3: 3,4,7,10,11,14,19 10.4: 4,6,8,10,15,17 10.5: 1,4,5,8,9,14,15
19	Review DVD: 10.6-10.8	10.6: 3,5,6,8,9,12,15,17 10.7: 3,6,7,8,12,13 10.8: 3,4,5,6,8,10,11,13
20	Review DVD: 11.1-11.5	11.1: 6,8,12,13,24 11.2: 2,5,7,9,12,14,17 11.3: 4,7,9 11.4: 3,6,11,15 11.5: 4,5,7,10,11
21	Review DVD: 11.6-11.8	11.6: 3,4,5,7,11,12 11.7: 1,5,7,8,11,13 11.8: 3,5,6,8,9
21	Review for Test 4	Take Test 4 Chapters 9-11
23	Review DVD: 12.1-12.4	12.1: 1,2,5,7,15,17 12.2: 4,6,11,13,17 12.3: 1,2,4,9,11,14,16 12.4: 1,5,9,13,15
24	Review DVD: 12.5-12.7	12.5: 1,3,4,8,10,12 12.6: 4,6,8,10,12,14,15,18 12.7: 4,7,10,12,13
25	Review DVD: 13.1-13.4	13.1: 4,6,9,11

		13.2: 1,4,6,12,14,15 13.3: 3,4,6,8,9,10,11 13.4: 3,5,6,8
26	Review DVD: 13.5-13.7	13.5: 3,4,5,7,9,10,13,16,18 13.6: 3,4,5,8,9,10,11,13,15,16,17 13.7: 1,5,8,9,12,15,17
27	Review DVD: 13.8-13.9	13.8: 3,4,6,7,9,11,13,14 13.9: 4,6,7,9,11,13,14
28	Review DVD: 14.1-14.5	14.1: 2,5,7,8,10,14,16,17 14.2: 4,6,7,10,12,14 14.3: 3,5,6,7,9,13,14,15 14.4: 2,4,6,8,9,12,14,16 14.5: 3,5,6,10,12,14,17
29	Review DVD: 15.1-15.5	15.1: 3,4,5,9,10,11,13 15.2: 1,4,5,6,7,8,11 15.3: 3,5,7,8,10,11 15.4: 1,5,8,10,11,13 15.5: 1,3,4,6,10,11
30	Review for Test 5	Take Test 5 Chapters 12-15
31	OPTIONAL Review DVD: 16.1-16.4	16.1: 2,3,7,14,15 16.2: 1,4,5,7,8,11,14 16.3: 1,3,4,5,7,9,11 16.4: 1,3,6,7,8,10,13,15,17
32	OPTIONAL Review DVD: 17.1-17.4	17.1: 1,3,4,6,8,10,12,15 17.2: 1,4,6,7,8,9,11,16,17,20 17.3: 2,5,6,9,10,11,12,14,16,19,21 17.4: 4-8,11,14,17
33	Optional: Review Test 6	Take Test 6 Chapters 16-17

Algebra 1

~ 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 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 chapter's review section. It is recommended that the tests be taken open book and open notes (The Student Edition text). 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.

For all tests, wherever the textbook indicates a calculator is needed, a calculator should be allowed for the test. The recommended version is a TI-30 or better for this course. They will not need graphing capabilities (that is actually *discouraged* for this course) but they will need basic scientific functionality.

For more information on calculators, as well as for a downloadable TI-89, please visit our website: www.askdrcllahan.com

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 page 15)

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. (Example: 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 Format

Please be aware that while the tests look like they contain a lot of problems, they are actually multiple parts of the same problem. For instance, for Test 1, numbers 1-4 are parts a-d of number 8 on page 61. We divided each part [(a), (b), (c), and (d)] into a separate, one-point problem to make grading easier for the parents. If we were in a classroom, the point value would vary per problem. However, since this kind of specific grading can be confusing at home, we tried to limit confusion by making each problem worth one point each.

Test Grade Sheet

Student EXAMPLE

Course Algebra 1

Test Number 1

Attempt # 1

- a. Number of problems correct 48
- b. Total number of problems 53
- c. Grade ($100 \cdot a/b$) 91 (round up to nearest integer)

Attempt #2

- d. Number of problems fixed 5
- e. Points added ($50 \cdot d/b$) 5 (round up to nearest integer)

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

Attempt #2

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

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

Attempt #2

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

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

Attempt #2

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

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

Attempt #2

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

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

Attempt #2

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

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

Attempt #2

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

Test Grade

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

Algebra 1 Test 1

Total number of problems: 66

Instructions:

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

From Chapter 1 Review

- 1) 8 a p. 61
- 2) 8 b p. 61
- 3) 8 c p. 61
- 4) 8 d p. 61
- 5) 11 a p. 62
- 6) 11 b p. 62
- 7) 3 a p. 62
- 8) 3 b p. 62
- 9) 3 c p. 62
- 10) 3 d p. 62
- 11) 5 a p. 62
- 12) 5 b p. 62
- 13) 11 a p. 63
- 14) 11 b p. 63
- 15) 11 c p. 63
- 16) 12 a p. 63
- 17) 12 b p. 63
- 18) 12 c p. 63

From Chapter 2 Review

- 19) 5 a p. 104
- 20) 5 b p. 104
- 21) 5 c p. 104
- 22) 5 d p. 104
- 23) 5 e p. 104
- 24) 6 a p. 104
- 25) 6 b p. 104
- 26) 6 c p. 104
- 27) 8 a p. 105
- 28) 8 b p. 105
- 29) 8 c p. 105
- 30) 8 d p. 105
- 31) 1 p. 106
- 32) 7 a p. 107
- 33) 7 b p. 107
- 34) 7 c p. 107
- 35) 9 a p. 107-108
- 36) 9 b p. 107-108
- 37) 9 c p. 107-108
- 38) 9 d p. 107-108

From Chapter 3 Review

- 39) 7 a p. 146
- 40) 7 b p. 146
- 41) 7 c p. 146
- 42) 7 d p. 146
- 43) 7 e p. 146
- 44) 8 a p. 146
- 45) 8 b p. 146
- 46) 8 c p. 146
- 47) 8 d p. 146
- 48) 10 a p. 146
- 49) 10 b p. 146
- 50) 10 c p. 146
- 51) 10 d p. 146
- 52) 13 a p. 146
- 53) 13 b p. 146
- 54) 13 c p. 146
- 55) 13 d p. 146
- 56) 13 e p. 146
- 57) 1 a p. 147
- 58) 1 b p. 147
- 59) 1 c p. 147
- 60) 1 d p. 147
- 61) 1 e p. 147
- 62) 3 a p. 147
- 63) 3 b p. 147
- 64) 3 c p. 147
- 65) 5 a p. 147
- 66) 5 b p. 147

Algebra 1 Test 2

Total number of problems: 56

Instructions:

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

From Chapter 4 Review

- 1) 4 a p. 177
- 2) 4 c p. 177
- 3) 4 g p.177
- 4) 4 h p. 177
- 5) 4 l p. 177
- 6) 9 a p.178
- 7) 9 b p.178
- 8) 9 c p.178
- 9) 9 d p.178
- 10) 4 a p. 179
- 13) 4 d p. 179
- 14) 4 g p. 179
- 15) 4 h p. 179
- 16) 4 i p. 179

From Chapter 5 Review

- 17) 2 a p. 233
- 18) 2 b p. 233
- 19) 2 e p. 233
- 20) 2 f p. 233
- 21) 8 a p. 233
- 22) 8 b p. 233
- 23) 8 c p. 233
- 24) 10 a p. 233
- 25) 10 d p. 233
- 26) 12 a p. 234
- 27) 12 c p. 234
- 28) 4 a p. 235
- 29) 4 c p. 235
- 30) 5 a p. 235
- 31) 5 c p. 235
- 32) 5 e p. 235
- 33) 8 a p. 235
- 34) 8 b p. 235
- 35) 8 d p. 235
- 36) 14 a p. 236
- 37) 14 b p. 236
- 38) 14 c p. 236
- 39) 16 a p. 237
- 40) 16 c p. 237
- 41) 16 d p. 237

From Chapter 3 Review

- 42) 4 a p. 278
- 43) 4 d p. 278
- 44) 5 c p. 279
- 45) 5 d p. 279
- 46) 5 e p. 279
- 47) 6 c p. 279
- 48) 6 d p. 279
- 49) 9 c p. 279
- 50) 10 a p. 279
- 51) 10 c p. 279
- 52) 2 c p. 280
- 53) 2 f p. 280
- 54) 6 d p. 281
- 55) 11 a p. 281
- 56) 11 b p. 281

Algebra 1
Test 3

Total number of problems: 53

Instructions:

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

From Chapter 7 Review

- 1) 1 a p. 335
- 2) 1 b p. 335
- 3) 1 c p. 335
- 4) 1 d p. 335
- 5) 1 e p. 335
- 6) 2 a p.335
- 7) 2 b p.335
- 8) 2 c p.335
- 9) 2 d p.335
- 10) 15 p. 335
- 13) 16 p. 335
- 14) 20 a p. 336
- 15) 20 b p. 336
- 16) 20 c p. 336
- 17) 1 a p. 336
- 18) 1 b p. 336
- 19) 1 c p. 336
- 20) 1 d p. 336
- 21) 1 e p. 336
- 22) 7 p. 336
- 23) 8 p. 336
- 24) 20 a p. 337
- 25) 20 b p. 337
- 26) 20 c p. 337

From Chapter 8 Review

- 27) 2 a p. 383
- 28) 2 b p. 383
- 29) 2 c p. 383
- 30) 2 d p. 383
- 31) 4 a p. 384
- 32) 4 b p. 384
- 33) 4 c p. 384
- 34) 4 d p. 384
- 35) 8 a p. 384
- 36) 8 b p. 384
- 37) 8 c p. 384
- 38) 8 d p. 384
- 39) 11 a p. 384
- 40) 11 b p. 384
- 41) 11 c p. 384
- 42) 11 d p. 384
- 43) 11 e p. 384
- 44) 11 f p. 384
- 45) 6 a p. 385
- 46) 6 b p. 385
- 47) 6 e p. 385
- 48) 8 a p. 385
- 49) 8 c p. 385
- 50) 8 d p. 385
- 51) 11 a p. 385
- 52) 11 c p. 385
- 53) 11 f p. 385

Algebra 1
Test 4

Total number of problems: 41

Instructions:

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

From Chapter 9 Review

- 1) 3 a p. 439
- 2) 3 c p. 439
- 3) 3 f p. 439
- 4) 7 a p. 439
- 5) 7 i p. 439
- 6) 7 l p. 439
- 7) 8 b p. 439
- 8) 8 d p. 439
- 9) 8 h p. 439
- 10) 6 b p. 440
- 11) 6 d p. 440
- 12) 7 d p. 440
- 13) 7 l p. 440
- 14) 8 c p. 440
- 15) 8 d p. 440
- 16) 8 f p. 440
- 17) 11 a p. 441
- 18) 11 b p. 441
- 19) 11 g p. 441
- 20) 11 h p. 441

From Chapter 10 Review

- 21) 6 a p. 494
- 22) 6 c p. 494
- 23) 8 b p. 494
- 24) 8 g p. 494
- 25) 9 a p. 494
- 26) 9 c p. 494
- 27) 10 a p. 494
- 28) 10 f p. 494
- 29) 5 a pg. 494
- 30) 5 c p. 494
- 31) 6 b p. 494
- 32) 9 i p. 496
- 33) 9 j p. 496
- 34) 9 k p. 496
- 35) 9 l p. 496

From Chapter 11 Review

- 36) 2 a p. 552
- 37) 11 c p. 553
- 38) 4 f p. 553
- 39) 6 c p. 553
- 40) 7 b p. 553
- 41) 12 d p. 553

Algebra 1
Test 5

Total number of problems: 75

Instructions:

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

From Chapter 12 Review

- 1) 5 b p. 601
- 2) 5 c p. 601
- 3) 6 a p. 601
- 4) 6 d p. 601
- 5) 7 a p. 602
- 6) 7 c p. 602
- 7) 9 b p. 602
- 8) 10 a p. 602
- 9) 10 c p. 602
- 10) 11 f p. 602
- 11) 12 c p. 602
- 12) 4 d p. 602
- 13) 7 b p. 603
- 14) 11 g p. 603
- 15) 14 g p. 603

From Chapter 13 Review

- 16) 3 a p. 662
- 17) 3 b p. 662
- 18) 3 c p. 662
- 19) 5 a p. 662
- 20) 5 b p. 662
- 21) 8 a p. 662
- 22) 8 b p. 662
- 23) 11 a p. 662
- 24) 11 b p. 662
- 25) 3 a p. 663
- 26) 3 b p. 663
- 27) 3 c p. 663
- 28) 6 a p. 663
- 29) 6 b p. 663
- 30) 6 c p. 663
- 31) 6 d p. 663
- 32) 9 a p. 663
- 33) 9 b p. 663
- 34) 9 c p. 663

From Chapter 14 Review

- 35) 5 a p. 699
- 36) 5 b p. 699
- 37) 5 c p. 699
- 38) 5 d p. 699
- 39) 9 a p. 700
- 40) 9 b p. 700
- 41) 9 c p. 700
- 42) 9 d p. 700
- 43) 10 a p. 700
- 44) 10 b p. 700
- 45) 10 c p. 700
- 46) 2 a p. 701
- 47) 2 b p. 701
- 48) 2 c p. 701
- 49) 2 d p. 701
- 50) 4 a p. 701
- 51) 4 b p. 701
- 52) 4 c p. 701
- 53) 6 p. 701

From Chapter 15 Review

- 54) 22 a p. 738
- 55) 2 c p. 738
- 56) 3 a p. 738
- 57) 3 d p. 738
- 58) 4 b p. 739
- 59) 4 c p. 739
- 60) 4 h p. 739
- 61) 4 j p. 739
- 62) 5 a p. 739
- 63) 5 c p. 739
- 64) 6 b p. 739
- 65) 6 c p. 739
- 66) 7 b p. 739
- 67) 1 a p. 740
- 68) 1 c p. 740
- 69) 2 b p. 740
- 70) 2 d p. 740
- 71) 3 a p. 740
- 72) 3 b p. 740
- 73) 6 a p. 741
- 74) 6 e p. 741
- 75) 7 c p. 741

Algebra 1
OPTIONAL
Test 6

Total number of problems: 50

Instructions:

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

From Chapter 16 Review

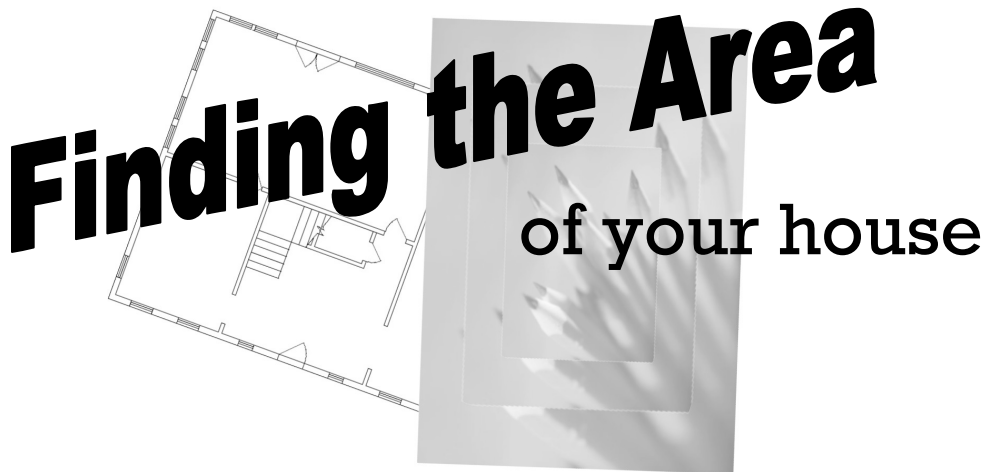
- 1) 2 a p. 771
- 2) 2 b p. 771
- 3) 2 c p. 771
- 4) 2 d p. 771
- 5) 6 a p. 771
- 6) 6 b p. 771
- 7) 6 c p. 771
- 8) 6 d p. 771
- 9) 6 e p. 771
- 10) 6 f p. 771
- 11) 7 a p. 771
- 12) 7 b p. 771
- 13) 7 c p. 771
- 14) 7 d p. 771
- 15) 6 a p. 772
- 16) 6 b p. 772
- 17) 6 c p. 772
- 18) 6 d p. 772
- 19) 7 a p. 772
- 20) 7 b p. 772
- 21) 7 c p. 772

From Chapter 17 Review

- 22) 1 a p. 812
- 23) 1 c p. 812
- 24) 8 f p. 812
- 25) 4 a p. 812
- 26) 4 b p. 812
- 27) 4 c p. 812
- 28) 4 d p. 812
- 29) 5 a p. 812
- 30) 5 b p. 812
- 31) 5 c p. 812
- 32) 6 c p. 812
- 33) 6 d p. 812
- 34) 7 c p. 813
- 35) 11 a p. 813
- 36) 11 b p. 813
- 37) 11 c p. 813
- 38) 11 d p. 813
- 39) 11 e p. 813
- 40) 11 f p. 813
- 41) 11 g p. 813
- 42) 1 a p. 814
- 43) 1 b p. 814
- 44) 1 c p. 814
- 45) 4 a p. 814
- 46) 4 b p. 814
- 47) 4 c p. 814
- 48) 13 a p. 816
- 49) 13 b p. 816
- 50) 13 c p. 816

Optional Activity 1

Finding the Area of your house



Applicable Lesson: 5.6

Difficulty Level: Easy

Time Required: 15-20 minutes

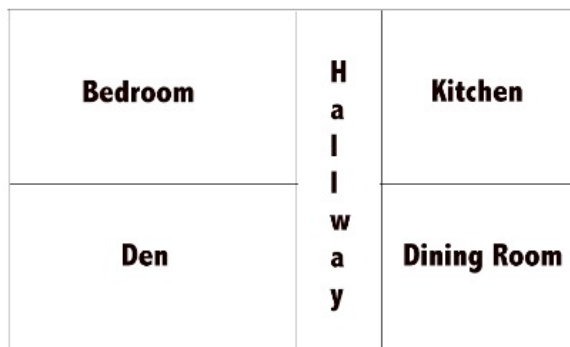
Supplies Needed:

- Tape Measure
- Partner to hold tape measure (optional)
- Paper to write on
- Pen/Pencil
- Harold Jacob's Elementary Algebra Textbook

Activity

Step 1: Draw a basic outline of your house. It is not necessary to be totally accurate. Try to choose rooms that are shaped as squares or rectangles. Estimate if needed. Label each room.

Example:



Step 2: Using a tape measure, measure both the length and width of each room. Write these measurements down.

Example: Dining Room: Length = 15 ft Width = 12ft

Step 3: Calculate the area of each room (Area = Length x Width) *Example: Area of Dining Room = 15(12) = 180 ft²*

Step 4: Add together each area (*Dining Room Area + Bedroom Area + Kitchen Area, etc*). This sum represents the approximate square footage of your house.

Optional Activity 2

Model Rockets

Applicable Lesson/Problem: Problem 9 pg. 249

Difficulty Level: Medium

Required Parental Supervision

Time Required: 1-1.5 hours (time varies depending on the type of rocket you choose and its assembly requirements. Actual launch time is about 2-5 minutes)

This project is designed to demonstrate math in action. The most applicable math concepts are fun here, but are not really realized until the Calculus level. For this reason, some parents may want to wait on this activity until Calculus 1. (But you can always do it twice! Calculus instructions are available online at www.askdrcllahan.com)

Supplies Needed:

- PARENTAL SUPERVISION
- 1 Rocket Kit (or Build your own) (Build your own instructions/links available at www.askdrcllahan.com)
- Paper/pen
- Harold Jacob's Elementary Algebra Textbook

Activity

Step 1: Work problem 9 pg. 249. Discuss how the math concepts demonstrated there apply to launching a rocket.

Step 2: Along with a parent, read and Follow the instructions for assembling your rocket. Be sure and read the instructions about appropriate weather conditions and important safety measures concerning rocket launches.

Step 3: Launch the rocket! ☺ Discuss how the real rocket launch compared to the problem in the book. For more information on rocket clubs and model rocket competitions, please visit our website: www.askdrcllahan.com

Suggested Activity Enhancement: For a project alternative, have your student research real rockets. Discover who builds them, why they are built, and where. The student could then put their research together in a binder, or on a poster. Consider having them use rockets to explain why math is relevant and important.

Courses by AskDrCallahan

- Algebra 1
- Geometry
- Algebra II with trigonometry (Can be sold as Algebra II or Trig only)
- Calculus 1 (Equivalent to Calculus 1 at most universities)

See website for more details.

Website: www.askdrCallahan.com

Email: products@askdrCallahan.com