

Algebraically Speaking...
Alg3 /Trig
Fall Semester Homework Problems
Chapter P – 6

Chapter P – Prerequisites:

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Review as necessary to make sure you are up to speed on concepts covered.

Work Ch P Review Problems: #1-113 odd

Work the Chapter P Test – OPEN BOOK (this is just to make sure you are up to speed on the prerequisite material). Please make sure to correct your work using worked out solutions. Test will be given a completion-only grade.

Chapter 1 – Equations, Inequalities, and Mathematical Modeling:

— Section 1.1 – Graphs of Equations

Vocab check

1-33 odd, #51, #59, #63, #68

— Section 1.2 – Linear Equations in One Variable

Vocab check

1-5, odd, 11-17, odd, 21-37, odd, 43, 47, 57, 61, 75, 83, 85, 89

— Section 1.3 – Modeling with Linear Equations

11-22, odd

— Section 1.4 – Quadratic Equations and Applications

If you have the DVD view section 1.4 (34 min) then read and study section 1.4: Assignment - Vocab check, 1-44 even 74-82 even, 91

— Section 1.5 – Complex Numbers

Read and study section 1.5 -View DVD (22 min) for clearer understanding if you have it.

Do problems: Vocab check, 1-4, 5-27 odd, 37-43 odd, 59-63 odd

— Section 1.6 – Other Types of Equations

Read and study section 1.6 -View DVD (32 min) for clearer understanding if you have it. Do problems: 1-20 even, 25, 31, 35, 45, 48, 59, 62, 67, 69

— Section 1.7 – Linear Inequalities in One Variable

- View DVD instructional material; Read and study text;
- Work problems: 1-5 odd, 7-12 all, 15, 17, 25-41 odd, 45 -53 odd, 75, 77, 85, 91, 96, 101, 109, 113

— Section 1.8 – Other Types of Inequalities

- View DVD instructional material; Read and study text;
- Work problems 1-21 odd, 27-31 odd, 37-41 odd, 47, 55, 57

Chapter 2 – Functions and Their Graphs :

— Section 2.1 – Linear Equations in Two Variables

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems 1-8 all, 9-29 odd, 41-47 odd, 51-61 odd, 66, 67, 69-70, 73, 76, 85, 93-98, 101-104

— Section 2.2 – (wait until after math lab to do)

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems 1-9 odd, 11, 12, 13-29 odd, 36, 39-56 odd

— Section 2.3 – Analyzing Graphs of Functions:

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems # 1-14 all, 15-21 odd (use calculator to verify),
#25-29 odd, 31-45 odd, 49, 51, 56, 58, 63,
#77-84 even
(if you are having trouble practice on the odds as well), 88

— Section 2.4 – A Library of Parent Functions

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems #1-8 even, 9-28 choose 10 of these – have fun!,
#29-35 odd, 40, 44, 48, 53-60 all, 62, 64, 65, 66

— Section 2.5 – Transformations of Functions:

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems # 1-4 on graph paper, not the calculator,
#5, 9-18 #51-60; If necessary, do the **Skills Review**.
(You will know if you need it.)

— Section 2.6 – Combinations of Functions: Composite Functions

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems #1-4, 5-29 odd,
#32 – if this gives you trouble try another one,
#37, 39, 43, 45, 60(a), 66, 67

— Section 2.7 – Inverse Functions

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems # 1-12, 13-24 odd, 25-60 even, 80-82

Chapter 3 – Polynomial Functions:

— Section 3.1 – Quadratic Functions and Models:

- View DVD instructional material;
- Read and study text carefully on your own;
- Vocabulary Check;
- Work problems #1-8, 9-25 odd, 29, 33, 37-49 odd, 53, 57-61 odd, 65, 67, 71
- Please read carefully and try to understand the applications section on pg 269. Work problem 77 and 83.

— Section 3.2 – Polynomial Functions of Higher Degree

- View DVD instructional material;
- Read and study text;
- Vocabulary Check;
- Work problems 1-8, 9-26 odd, 27-30, 43, 47-51 odd, 57-60, 67-75 odd, 85, 89, 98

— Section 3.3 – Polynomial and Synthetic Division

- View DVD instructional material.
- Read and study the material. This is going to get a bit muddy. It will really help you to view the DVD.
- Vocabulary Check;
- Work problems 2, 5-9 odd, 19-27 odd, 37, 39, 45, 49, 51, 57, 59

— Section 3.4 – Zeros of Polynomial Functions:

- View DVD instructional material.
- Read and Study.
- Vocabulary Check;
- Work problems: 1-5 odd, 7-10, 11, 12, 17, 19, 21, 22, 25, 26, 37, 43, 55-61 odd, 80-86 even.

— Section 3.5 – Mathematical Modeling and Variation:

- View DVD instructional material. We are back to some material you should have covered in Algebra II and this hopefully looks familiar. Make sure you read the material and work the exercises at the end of each example.
 - Review Problems 11-20 as necessary. Make sure you understand the difference between the types variations.
 - Work problems 21-24 finding k
 - 26-28 Find the models. An example:
#25). $x=5, y=12$; they vary directly so: $12=k(5)$; solve for $k \rightarrow k=2.4$,
Now substitute k in an equation with x and y ...
 \rightarrow the model becomes $y=2.4k$
 - Work 29-37 odd; 55-61 odd; 68 and 70

Chapter 4 – Rational Functions and Conics:

— Section 4.1 – Rational Functions and Asymptotes:

- View DVD instructional material.
- Read and Study material in book carefully on your own.
- Vocabulary Check;
- Work problems 1- 47, odd.

— Section 4.2 – Graphs of Rational Functions:

- View DVD instructional material.
- Read and Study.
- Vocabulary Check;
- Work problems 1-30, odd; 43,45, 47-56 even; 68, 70, 72, 75-81.

— Section 4.3 - Conics:

- View DVD instructional material.
- Read and Study material in book.
- Vocabulary Check;
- Problems 1-30, odd; 31, 32, 35-51, odd; 61-75, odd.

— Section 4.4 – Translations of Conics:

- View DVD instructional material.
- Read and Study.
- Vocabulary Check;
- Work problems: 1-30 even; 33, 34 (solution guide misprints the problem on 34 – though the answer is correct; it is missing the -12.5 on the left hand side of the equation. I just didn't want you spending a lot of time trying to figure it out!), 35, 39, 41, 43-52 even, 58-62, 68, 70, 74.

Chapter 5 – Exponential and Logarithmic Functions:

— Section 5.1 – Exponential Functions and Their Graphs:

- View DVD instructional material.
- Carefully, Read and Study material in book ON YOUR OWN.
- Vocabulary Check;
- Problems: 1-10; 11-16 odd; 17-22; 23-29, odd; 33, 35, 41, 43, 53-57 odd; 61, 65, 66

— Section 5.2 – Logarithmic Functions and Their Graphs:

- View DVD instructional material.
- Read and Study.
- Vocabulary Check;
- Problems: 1-29 odd; 39-44, all; 45-59, odd; 88, 89

— Section 5.3 – Properties of Logarithms:

- View DVD instructional material.
- Carefully, Read and Study material in book.
- Vocabulary Check;
- Problems: # 2-22 even, 23-51 odd, 61-73 odd, 81-83 all

— Section 5.4 – Exponential and Logarithmic Equations:

- View DVD instructional material.
- Read and Study material in book.
- Vocabulary Check;
- Problems: ; 1-20, odd; 21-24, all; 25-57, odd; Study example 5 – then do 67 if you haven't already; 75-85, odd; study example 9 – then do 103; 112-114

— Section 5.5 – Exponential and Logarithmic Models

- View DVD instructional material
- Read and Study material in book.
- Vocabulary Check;
- Problems: 1-6; all, 7-21, odd; 25-35, odd; 39, 40, 51, and 71. Look through all the problems so you can see the application of these mathematical models to real life situations. If anything interests you – give them a try!

Chapter 6 – Trigonometry:

- Section 6.1:
View DVD material on 6.1 and read the material. Vocabulary Check.; 1-80 odd

- Section 6.2:
View DVD material on 6.2 and read the material. Vocabulary Check; 1-61, odd; 64,66, 68

- Section 6.3:
View DVD material on 6.3 and read the material. Vocabulary Check.; 1-64 odd; 65-80, any if you need practice using your calculator for trig functions; 81-94, odd; 100-104 all.

- Section 6.4:
View DVD material on 6.4 and read the material. Vocabulary Check; 1-70, odd; 71 & 72

- Section 6.5:
View DVD on 6.5 and read the material. Vocabulary Check.; 1-11 odd; 14, 16, 19, 24; 31-39, odd; 41-47, odd – use a graphing calculator for these. Check the x-scale setting and change as necessary to π values that are easy to see the solutions; 49-55, odd ; 69-75, odd; 76 and 80.

- Section 6.6:
View DVD on 6.6 and read the material. Vocabulary Check; 1-51, odd; 59, 63, 91, 92, 96.

- Section 6.7:
View DVD on 6.7 and read the material. Vocabulary Check; 1-21, odd; 26, 29, 38, 43, and 61.