

Math 140
PreCalculus Algebra and Trigonometry

Text: *Functions Modeling Change, 3rd edition, with WileyPLUS Access*, Connally, Hughes-Hallett, Gleason, et al, Wiley 2007

Prerequisites: Minimum ACT math score of 23, department exam or Math 100 or Math 105 with a grade of C or better.

A Graphing calculator is required. A TI-83+, TI-84, TI-86, TI-89, or better is strongly recommended.

The following coding is used in the assignment section: Exercises (Ex), WileyPLUS (WP), Extra Practice (EP), Problems (Pb).

Topic	Section	Assignment
1	Introduction/Tools for Chapter 1 (p 55) Homework only	Ex: p 58: 8,11,13,14,16,17,22-24,26,28,31,32,36,37,39,42,44,51 WP: 14,16,26,34,37,42 EP: 15,21,25,29,30,35,38,43,46,47,50
	1.1 Functions	Ex: 1-7,9-12,14,16 Pb: 17-22,26,28-31,33-36 WP: 9,10,11,30,33,34,35 EP: 23,24
2	1.2 Rate of Change	Ex: 1,3-7,10,12 Pb: 13,14,16-18,20,22-24 WP: 1,7 EP: 15,21
3	1.3 Linear Functions	Ex: 1-10 Pb: 13,14,16,18-20,23,24,26-28,31 WP: 3,26 EP: 11,12,22,32
4	Direct Proportion Handout	
5	1.4 Formulas for Linear Functions	Ex: 2,5,7,10,12,14-16,18-20,23,25,29,30 Pb: 31,32,34,35,37abc,38,40,42,43 WP: 10,16,21,23, 25,31-35 EP: 3,4,6,8,9,11,21,22,26,33,41
6	1.5 Geometric Properties of Linear Functions	Ex: 2,6,9,10,13,14 Pb: 15,16,19,20,22,24,25,28,30,31,33,35 WP: 9,15,16,22,25 EP: 17,18,23,32,34
7	1.6 Fitting Linear Functions to Data	Ex: 1,3-6,8 Pb: 1,3-6,8
8	Tools for Chapter 2 (p 99) Homework only	Ex: p 102: 9,14,17,20,21,24,26,27,35,39,43,47,48,53,56,59,61,64,69,73,78,80-82,85-87, 92,93,97,101,103,105,109-111,114,115,119 WP: 24,26,27,61,64,69,81,82,85,92,93,101, 105,110,111,114 EP: 25,66,70,71,84
	2.1 Input and Output	Ex: 1-3,5,6,9,10,13,15,16,18 Pb: 22,24-26,29-35,40,41 WP: 2 EP: 4,8,11,17,27,28
9	2.2 Domain and Range	Ex: 1-7,9,11,13,14 Pb: 15-20,22-29,31,32,34,35 WP: 1-3,5-7,18,29
10	2.3 Piecewise Defined Functions	Ex: 1,3-5,7,9 Pb: 11-16,19 EP: 2,10
11	2.4 Composite and Inverse Functions	Ex: 2,3,5,7,9-11,14,16,18-20,22 Pb: 24-26,29,30,32,35-38,40 WP: 9,10,11,14,18-20 EP: 1,4,6,8,12,15,17,23,28,31,34,39
12	2.5 Concavity	Ex: 1,2,5,7-12 Pb: 13-16,19,21 WP: 5,8,9 EP: 18,20
13	2.6 Quadratic Functions	Ex: 1,2,4,5,7,8,11,13,14,17,18,20,23,24 Pb: 26-28,30,31,34 WP: 1,4,8,13,18,31 EP: 9
14	Review: Chapter 1	Ex: p 50: 1-5,7-10,12,13,15,16,18 Pb: 19-24,26,27,30-32,34-37,39-43 and p 72 number 31 Run linear regressions for walking, bicycling and swimming.
	Review: Chapter 2	Ex: 3-11,13,16-20 Pb: 21-33,35,36,38-40,42,43,46,47
15	Test 1	
16	Tools for Chapter 3 (p 146) Homework only	Ex: p 148: 6,9,11,14,16,20,28,30,41,42,47,49,51,65,67,70,74,76,80,85,88-104 WP: 67,70,74,76, 88-92,95-104 EP: any unassigned exercises from 1-87
	3.1 Family of Exponential Functions	Ex: 1-4,6,8,9,12,13,15-18 Pb: 20,23,26-29,31,34,37,40,41 WP: 2,4,6,18,26-29 EP: 10,14,19,24,25,30,33
17	3.2 Comparing Exponential and Linear Functions	Ex: 1-6,9 Pb: 10,11,15,16,19-21,23,25-28,30-33,35,39,40 WP: 2,5,6,11,15,19,23, 25,27,30,32,33,40 EP: 12,17,18,24,34,38
18	3.3 Graphs of Exponential Functions	Ex: 3-10,13,14 Pb: 15,16,17-19,24,27-36,38,40,41,43 WP: 17,31-33,35,36,38 EP: 11,12,15,39
19	3.5 Compound Interest	Ex: 3,6,8-10,13 Pb: 16,19,20,22,24-26 WP: 10,22,24,25,26 EP: 15,18

Topic	Section	Assignment
20	3.4 Continuous Growth	Ex: 3,5,9 Pb: 11-15,17,19,21,23,24 WP: 12 EP: 4,8,10,16,18,20,22
21	4.1 Logarithms and their Properties	Ex: 1,3,5,7-9,12,13,16,17,19,20 Pb: 22,24-27,29-33,35-39,43-49 WP: 5,9,12,24a, 25,26,36,38,47,49 EP: 2,4,6,10,11,14,15,18,28,54
	Tools for Chapter 4 (p 189)	Ex: p 192 1-10,12-14,16-20,22,24,26,27,33-37,40,42,46,50,51,53,56,58-61,64-68 WP: 22,24
22	4.2 Logarithms and Exponential Models	Ex: 2-4,7,10,11,14,16,17,19,21,22,25,27 Pb: 28,32,34,39,41,44-53,57,58 EP: 5,15,18,20, 24,30,31,36,43,56
23	4.3 The Logarithmic Function	Ex: 6-12,18 Pb: 19,20,22,25,27-31 WP: 2,4,35,37 EP: 5
24	Review: Chapter 3	Ex: 1-14,16,18-20 Pb: 21-32,34,36,38,40,42-49,55-62
	Review: Chapter 4	Ex: 1,4-12,13bce,14,16-18,21,22,24,25,28,29 Pb: 31-39,41-45,47,48,52
25	Test 2	
26	5.1 Vertical and Horizontal Shifts	Ex: 1,2,5-11,13,14,18,21,24 Pb: 26-29,31,37-39,41,44 WP: 7,26,39 EP: 12,15,19,20, 23,25,33-36
27	5.2 Reflections and Symmetry	Ex: 1-4,7,13,17-19,21-23 Pb: 26,28-32,34,37,38 EP: 5,6,8,9,12
28	5.3 Vertical Stretches and Compressions	Ex: 1-4,8,10,17 Pb: 18-20,22,23,25-27,31,33-36,38 EP: 5,6,9,24,28-30,32
29	5.4 Horizontal Stretches and Compressions	Ex: 1,2,4,6,7,10 Pb: 11,12,15-18,21-23 EP: 3,9,13,14,19
30	Tools for Chapter 5 (p 239)	Ex: p 241 2,6,9,11,14,16,19,22,25,27,33,35,38,40-42,44,45,46,49,50,53
31	5.5 Family of Quadratic Functions	Ex: 1-3,5-9,11,12,14-18 Pb: 21,23,26-29,31-35 WP: 5,8,11,17,18,21,26 EP: 4,10,13, 19,22,24,25
32	Tools for Chapter 6 (p 301)	Ex: p 304 1-5,7-9,11,13,15,17-27,31 WP: 23 EP: 6,9,12,14
33	6.1 Introduction to Periodic Functions	Ex: 1-12 Pb: 13,14,16,18-20,22-28,31 WP: 9,23,31 EP: 17,21
34	6.2 Sine and Cosine Functions	Ex: 1-6,9,11,12,15-17,19-24 Pb: 25-28,30-33,36 WP: 2,26,28 EP: 7,8,10,29
35	6.3 Radians	Ex: 1,3,6-15,17-22 Pb: 24,25,27-30,32,35-37,39-43 WP: page 250 section 6.1 number 29, and 6,27,30,39,40 EP: 2,4,5,11,16,23,26,31,33,38
36	6.4 Graphs of Sine and Cosine	Ex: 2-6,8,9,12-15 Pb: 17-20,23-25,28-30 WP: 3,7,14 EP: 1,8,16
37	6.5 Sinusoidal functions	Ex: 1-3,6-10,12,14-18 Pb: 19,20,23-31,33-35,37,38,40-42,45 WP: 3,6,18,25,29 EP: 4,5,11,13,22,32,36,39
38	6.6 Other Trigonometric Functions	Ex: 1-16 Pb: 18-21,23,25-28,30-32,34,35 WP: 9,12,16,20,28,30,32 EP: 17,22,24,29
39	Review: Chapter 5	Ex: 2-8,11-14,16 Pb: 17-24,26-32,34-39
	Review: Chapter 6	Ex: 1-4,6,8,9,11,13-15,17,18,20,21,23-33 Pb: 35-38,42-45,48-50,54,57,59-61
40	Test 3	
41	6.7 Inverse Trigonometric Functions	Ex: 3,5,6,8,10-13,15-18,21,23,25-29, and TC6 p 305 17 and 18 Pb: 31-33,35,36,39-45, 47-59,62 WP: 10,21,43, and TC6 p 305 number 18
42	7.1 General Triangles: Laws of Sines and Cosines	Ex: 1,3,6,9,12,15,16,18,19,20,22,23 Pb: 24,25,27,29-32,37,38 WP: 1,6,16,29,32 EP: 4,11,21,26
43	7.2 Trigonometric Identities	Ex: 2,4-6,10,13-15,17-19 Pb: 21a,22a,23a,25-27,31,33,35,41,43-45 WP: 41ab EP: 42,46
44	7.3 Sum and Difference Formulas for Sine and Cosine	Ex: 5 - 10 Pb: 17,21,22 EP: 23
45	7.4 Trigonometric Models (Hw assignment only)	Ex: 1,2 Pb: 4a-d,5,6a-c
	7.5 Polar Coordinates	Ex: 1-21 Pb: 22-30,32,34,37-39,41,42,45 WP: 3,18 EP: 33,36
	Handout for 7.5 and 7.6	Handout for 7.5 and 7.6
46	7.6 Complex Numbers and Polar Coordinates	Ex: 1-14 Pb: 17-24,27,28 WP: 8,27,28a
47	Review: Section 6.7	Pb: 39,40,41,51,52,53
	Review: Chapter 7	Ex: 1-8,10-22 Pb: 23,25-28,30,36,38,40-43
48	Test 4	
49	8.1 Composition of Functions	Ex: 1,4,5,8-10,12,16,17 Pb: 18,20-22,25-27,29,32-34,37-42,44-46,51,52,55,56,58 WP: 8,9, 10,25,26 EP: 2,3,6,7,11,19,23,24,28,30,36,43,47
50	8.2 Inverse Functions	Ex: 1-7,9-11,14,16-20,22,23,25 Pb: 30-35,37,38,41,42,44,46-48,52,53,55 WP: 8,13,28,29, 43,50,51,54 EP: 16,18,20,23,31,37
51	8.3 Combinations of Functions	Ex: 2,6,7,8,10,11,14,16,19-21 Pb: 26,28,30,33,34,37,40,41 WP: 40 EP: 1,4,9,15,17,18,22,27,29

Topic	Section	Assignment
52	Tools for Chapter 9 (p 441) Homework only	Ex: p 444 13,15,18,20,24,30,35,38,39,41,43,52,55,56,58,61
	9.1 Power Functions	Ex: 1,3,5,6,8,9,12,14,15,18,20,23,24 Pb: 33-37,39,40 WP: 12,18,20 EP: 2,4,13,16,17
53	9.2 Polynomial Functions	Ex: 1-8,11 Pb: 12,13,15,19-23,27 WP: 23,27 EP: 28
54	9.3 Short Run Behavior of Polynomials	Ex: 1,4,6-9 Pb: 11ab,12,15-17,19,20,23,30,32,38,41,42,43 WP: 6,15,17,23,30 EP: 2,3,5,10,13,21,24,29,33
55	9.4 Rational Functions	Ex: 2,3,5,7,8,12 Pb: 13,15,16,21 EP: 9,10,20
56	9.5 Short Run Behavior of Rational Functions	Ex: 1,2,4-7 Pb: 11,13,14,17,18,23,24,26,40 EP: 15a,16a
57	10.1 Vectors	Ex: 1-3,6,7,9,11 Pb: 12-15,18,19 WP: 12
58	10.2 Components of a Vector	Ex: 2,3,6,8,9 Pb: 13-17,22,23,27,28 WP: 6
59	10.3 Application of Vectors	Ex: 1,3,7,8,10 Pb: 11-13,15,16 WP: 3,8,11,12,13
60	Review: Chapter 8	Ex: 1-8,11,12,14,15,17,18,20,22-25,27,28,30 Pb: 31-33,35,37-40,43-48,50-56,59,60,62,65,66
	Review: Chapter 9	Ex: 1,4,5,7,9,10,12-18,21-24 Pb: 29-37,43-49
	Review: Chapter 10	Ex: 1,4,5,7,9,10 Pb: 23,28
61	Test 5	
62	Review for Final Exam	

Emergency Evacuation Procedure: A map of this floor is posted near the elevator marking the evacuation route and the **Designated Rescue Area**. This is an area where emergency service personnel will go first to look for individuals who need assistance in exiting the building. Students who may need assistance should identify themselves to the teaching faculty.

Last updated 20 August 2009.