

Santiago Canyon College, Spring 2012

Math 140, College Algebra

Kime, Linda, et al. *Explorations in College Algebra* 5th edition, 2011

- Complete all parts of the assigned problems unless otherwise indicated. For example, in Section 1.2 #2 has parts a, b, c, and d. You are to complete all four parts. #5 has parts a, b, c, and d. This assignment list indicates that you are to complete parts a and d.

Ch. 1 An Introduction to Data and Functions

Section	Assignment
1.1 Describing Single-Variable Data	#1, 2, 5, 7, 9, 12, 15, 19, 20
1.2 Describing Relationships between Two Variables	#1, 2, 3, 5 a d, 7, 9, 10, 13
1.3 An Introduction to Functions	#2, 3, 4, 5, 7, 9, 12, 13
1.4 The Language of Functions	#1, 2, 3, 5, 9, 11, 13, 17
1.5 Visualizing Functions	#3, 5, 6, 8, 9, 13, 18, 20, 26

Ch. 2 Rates of Change and Linear Functions

Section	Assignment
2.1 Average Rates of Change	#1, 3, 5, 7, 8, 9, 13, 15
2.2 Change in the Average Rate of Change	#1, 3, 5, 7, 9, 10
2.3 The Average Rate of Change is a Slope	#1, 4, 5, 7, 9, 11, 14, 16, 18, 19
2.4 Putting a Slant on Data	#1, 2, 4, 5, 7
2.5 Linear Functions: When Rates of Change are Constant	#1, 4, 5, 6, 9, 11, 12, 16, 17
2.6 Visualizing Linear Functions	#1, 3, 5, 6, 9, 11, 13
2.7 Constructing Graphs and Equations of Linear Functions	#3, 4, 7, 10, 13, 15, 18, 19
2.8 Special Cases	#1, 2, 5, 7, 9, 10, 13, 15, 17, 20, 24
2.9 Breaking the Line: Piecewise Linear Functions	#1, 3, 4, 7, 8, 10, 11, 13
2.10 Constructing Linear Models of Data	#1, 5, 7, 8, 11, 12, 17
2.11 Looking for Links between Education and Earnings: A Case Study Using Regression Lines	#1, 3, 4, 5, 7, 10, 11

Ch. 3 When Lines Meet: Linear Systems

Section	Assignment
3.1 Interpreting Intersection Points: Linear and Nonlinear Systems	#1, 2, 5, 6, 9, 11, 13, 16
3.2 Visualizing and Solving Linear Systems	#1, 3, 5, 7, 9, 13, 19, 22 & problems from the handout
3.3 Reading Between the Lines: Linear Inequalities	#1, 3, 8, 10, 13, 15, 17, 19
3.4 Systems with Piecewise Linear Functions: Tax Plans	#1, 4, 7, 9

Ch. 4 The Laws of Exponents and Logarithms: Measuring the Universe

Section	Assignment
4.1 The Numbers of Science: Measuring Time and Space	#1-12, 14
4.2 Positive Integer Exponents	#1-9 odd, 12, 13, 15, 22, 25
4.3 Zero, Negative, and Fractional Exponents	#1-21 odd, 23, 27, 28, 32
4.4 Converting Units	#5, 6, 9, 10-12, 15, 19, 21

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4.5	Orders of Magnitude	#1, 3, 5, 7, 9, 13
4.6	Logarithms as Numbers	#1-21, 23

Ch. 5 Growth and Decay: An Introduction to Exponential Functions

Section	Assignment	
5.1	Exponential Growth	#1-15
5.2	Exponential Decay	#1-7, 10, 11, 14, 15, 17
5.3	Comparing Linear and Exponential Functions	#1, 2, 4, 5, 7, 9, 13, 15
5.4	Visualizing Exponential Functions	#1-7, 9, 12, 15
5.5	Exponential Functions: A Constant Percent Change	#1-5, 7, 8, 9, 15, 17, 17, 23, 25
5.6	More Examples of Exponential Growth and Decay	#1, 3, 7, 11, 13, 21
5.7	Compound Interest and the Number e	#1-11 odd, 12, 15, 17
5.8	Semi-Log Plots of Exponential Functions	#1, 3, 6, 7

Ch. 6 Logarithmic Links: Logarithmic and Exponential Functions

Section	Assignment	
6.1	Using Logarithms to Solve Exponential Equations	#3, 5, 8, 9, 10, 13, 16, 17, 20, 25, 29
6.2	Using Natural Logarithms to Solve Exponential Equations Base e	#1, 3, 4, 5, 8, 9, 10, 13, 20, 29, 30, 35
6.3	Visualizing and Applying Logarithmic Functions	#1-5, 8, 9, 13
6.4	Using Semi-Log Plots to Construct Exponential Models for Data	#1-5, 9, 11, 13

Ch. 7 Power Functions

Section	Assignment	
7.1	The Tension Between Surface Area and Volume	#1, 2, 3, 5, 7, 10, 11, 13
7.2	Direct Proportionality: Power Functions with Positive Powers	#1-5, 7, 11, 13, 14, 17
7.3	Visualizing Positive Integer Power Functions	#1, 3, 5, 8-10, 12
7.4	Comparing Power and Exponential Functions	#2, 3, 5, 8, 9, 10, 11, 13
7.5	Inverse Proportionality: Power Functions with Negative Powers	#1, 3, 5, 9, 13, 17, 19
7.6	Visualizing Negative Integer Power Functions	#1-15 odd, 16
7.7	Using Logarithmic Scales to Find the Best Functional Model	#1-3, 5-7, 11, 15, 17

Ch. 8 Quadratics and the Mathematics of Motion

Section	Assignment	
8.1	An Introduction to Quadratic Functions: The Standard Form	#1, 2, 6, 7, 9, 11, 13, 17, 21, 22
8.2	Visualizing Quadratics: The Vertex Form	#1, 2, 4, 5, 7, 9, 11, 13, 15
8.3	The Standard Form vs. the Vertex Form	#1, 2, 5, 6, 9, 13, 15, 19
8.4	Finding the Horizontal Intercepts: The Factored Form	#1, 3, 7, 12, 13, 16-21
8.5	The Average Rate of Change of a Quadratic Function	#1, 2, 3, 7, 9, 10
8.6	The Mathematics of Motion	#1, 3, 7, 11, 17

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Ch. 9 New Functions from Old

Section	Assignment
9.1 Transformations	#1-13 odd, 20
9.2 The Algebra of Functions	#1-7 odd, 11, 13, 17
9.3 Polynomials: The Sum of Power Functions	#1-19 odd, 22, 25
9.4 Rational Functions: The Quotient of Polynomials	#1, 2, 3, 5, 7, 11, 12, 15, 20
9.5 Composition and Inverse Functions	#1-9 odd, 11, 13, 17-21 odd, 25, 27, 29-31
9.6 Exploring, Extending, and Expanding	#9.6c, 9.6e

Supplement: Sequences and Series

Section	Assignment
10.1 Sequences: Explicit & Recursive	#1-18
10.2 Arithmetic Sequences	#1-19
10.3 Series	#1-14
10.4 Geometric Series	#1-13