

# PreCalculus Honors

## Assignment List (Sullivan & Sullivan, 3<sup>rd</sup> Edition)

### Chapter 01

#### §1.1

Problems	Skill(s) and Standard(s)
1 – 4	Plot a point in a coordinate plane Identify the quadrant of a point Identify points that follow a pattern
5 – 8	Identify the coordinates of a point Identify the quadrant of a point
9 – 14	Determine an appropriate viewing window
15 – 20	Identify the viewing window used for a diagram
21 – 38	Find the distance between two points
39 – 44	Verify that a triangle is right, given the coordinates of the vertices
45 – 48	Find all points a given distance from a given point
49 – 58	Find the coordinates of a segment midpoint

#### §1.2

Problems	Skill(s) and Standard(s)
1 – 6	Determine if a point is on the graph of an equation
7 – 14	Find the axis intercepts of a graph
15 – 18	Solve for missing information about points and graphs (coordinates or equation parameters)
19 – 30	Find the axis intercepts of a graph Sketch the graph of an equation by hand
31 – 38	Sketch the graph of an equation using technology

#### §1.3

Problems	Skill(s) and Standard(s)
1 – 10	Plot points symmetric to a given point
11 – 18	Determine the symmetry of a graph
19 – 22	Use symmetry to complete a graph
23 – 34	Determine the symmetry of a graph
35 – 38	Sketch the graph of an equation by hand
39 – 52	Find the center of a circle Find the radius of a circle Write the equation of a circle
53 – 62	Find the center of a circle Find the radius of a circle Sketch the graph of a circle
63 – 68	Write the equation of a circle given some information about the circle
69 – 72	Match the equation of a circle with its graph
73 – 76	Write the equation of a circle given its graph

### §1.4

Problems	Skill(s) and Standard(s)
1 – 12	Solve equations graphically
13 – 30	Solve equations algebraically: PC-2.4
31 – 46	Solve equations by factoring: EA-6.4
47 – 62	Find all real solutions to a quadratic equation
63 – 88	Find all real solutions to a radical equation: PC-4.5
89 – 104	Find all solutions to an absolute value equation
107 – 110	Solve an equation in terms of its parameters
111 – 114	Solve equations for an indicated variable: EA-3.7
115	Solve word problems
116	Determine the mistake in a solution
117	Identify equations that are equivalent

### §1.5

Problems	Skill(s) and Standard(s)
1 – 6	Write an inequality in interval notation
7 – 12	Perform algebraic operations on an inequality
13 – 20	Write an inequality in interval notation
21 – 28	Convert from interval notation to an inequality
29 – 41	Determine the correct inequality symbol
43 – 92	Solve inequalities
93 – 96	Convert from words to an inequality involving absolute value Solve inequalities
97 – 100	Convert from words to an inequality involving absolute value Solve inequalities Solve word problems
101 – 114	Solve word problems involving inequalities

### §1.6

Problems	
1 – 12	Determine the slope of a line
13 – 18	Write the equation of the line with a given slope and a given point: EA-4.2
21 – 26	Find coordinates of points on a line given the slope and one point on the line
27 – 34	Determine the equation of a line given the graph
35 – 58	Write the equation of a line given some information about the line
59 – 78	Determine the slope and y-intercept of a line
81 – 84	Match the equation of a line with its graph
85 – 88	Determine the equation of a line given its graph
89 – 95	Solve word problems involving lines
96 – 104	Extension Problems

### Chapter 01 Review

## Chapter 02

## §2.1

Problems	Skill(s) and Standard(s)
1 – 12	Determine whether a relation is a function: EA-3.1 Identify the domain of a function: PC-2.5 Identify the range of a function: PC-2.5
13 – 20	Evaluate a function Substitute an expression into a function
21 – 32	Determine if an equation represents a function: EA-3.1
33 – 46	Determine the domain of a function: PC-2.5
47, 48	<i>Various questions about a graph of a relation</i>
49 – 60	Determine if a graph represents a function: EA-3.1 Determine the domain of a function: PC-2.5 Determine the range of a function: PC-2.5
61 – 66	<i>Various questions about functions</i>
67 – 72	Use functions to solve equations
73 – 78	Simplify the difference quotient for a function
85, 86	Use a graphing calculator to answer questions about functions
87 – 90	Write functions from verbal descriptions
91 – 94	Answer various questions about a given function
95	Extension Problem

## §2.2

Problems	Skill(s) and Standard(s)
1 – 8	Sketch a line
11, 12	Solve word problems involving lines
13 – 18	Determine whether a scatterplot shows a linear relationship
19 – 24	Construct a scatterplot Find the Least Squares Regression Line: EA-4.4
25 – 30	Use Linear Regression to solve word problems
31 – 35	Solve word problems involving direct proportions

## §2.3

Problems	Skill(s) and Standard(s)
1 – 10	Answer various questions about a graph
11 – 20	Find the axis intercepts of a graph Find the domain and range of a graph: PC-2.5, EA-3.4 Determine intervals where a graph is increasing and decreasing: PC-2.7 Determine whether a graph is even, odd, or neither: PC-2.6
21 – 24	Find all local maxima of a graph: IA-4.2 Find all local minima of a graph: IA-4.2
25 – 36	Find the average rate of change of a function over an interval Find the equation of the secant line for a function over an interval

37 – 48	Determine whether a graph is even, odd, or neither: PC-2.6
49, 50	Extension Questions
51 – 58	Determine intervals where a graph is increasing and decreasing: PC-2.7 Find all local maxima of a function: IA-4.2 Find all local minima of a function: IA-4.2
59 – 66	Find the equation for the slope of the secant line of a function over a given interval with a fixed endpoint Find the slope of the secant line of a function over an interval

#### §2.4

Problems	Skill(s) and Standard(s)
1 – 8	Match the graph to the description of a basic function
9 – 14	Sketch the graph of a basic function: PC-2.1
15 – 18	Evaluate a piecewise defined function at a given point
19 – 30	Find the domain of a function: PC-2.5, IA-2.10 Sketch the graph of a piecewise defined function: IA-2.9 Find the axis intercepts of a piecewise defined function Find the range of a piecewise defined function: EA-3.4, IA-2.10
31 – 34	Write the equation of a piecewise defined function, given its graph
35 – 38	Solve word problems involving piecewise defined functions
40 – 42	Solve word problems involving piecewise defined functions

#### §2.5

Problems	Skill(s) and Standard(s)
1 – 16	Match the graph of a transformed function to its equation: PC-2.3
17 – 24	Write the equation of a transformed quadratic function
25 – 28	Write the equation of a transformed radical function
29 – 32	Determine whether a point lies on a transformed function
33 – 62	Sketch the graph of a function using transformations of basic functions: PC-2.2
63 – 68	Sketch the graph of a transformed function, given only the graph of the original function: PC-2.2
71, 72	Sketch the graph of a transformed function, given only the graph of the original function: PC-2.2
73 – 78	Sketch the graph of a function using transformations of basic functions: PC-2.2
79, 80	Extension Problems
81 – 83	Solve word problems about transformations of given functions: PC-2.4

#### §2.6

Problems	Skill(s) and Standard(s)
1 – 10	Find the equation of an operation on two functions: IA-2.5
11, 12	Given the result of an operation of two functions and one of the functions, find the other function
13 – 22	Evaluate a composition of functions at a given value
23 – 30	Find the domain of a composition of functions: PC-2.5
31 – 54	Find the equation of a composition of functions: IA-2.6

55 – 60	Decompose a function into two functions
61, 62	Find the equation of a composition of functions: IA-2.6
63, 64	Solve for the missing constant, given two functions and information about their composition
65 – 72	Solve word problems about compositions of and operations on functions
73 – 76	Write the equation of a composition of or operation on functions from a word problem: PC-1.5

### §2.7

Problems	Skill(s) and Standard(s)
1 – 26	Solve optimization word problems: PC-2.4

## Chapter 02 Review

1 – 89

## Chapter 03

### §3.1

Problems	Skill(s) and Standard(s)
1 – 8	Match the equation of the quadratic to its graph: PC-2.1
9 – 24	Sketch the graph of a quadratic using transformations: PC-2.2, PC-3.1
25 – 42	Sketch the graph of a quadratic: PC-2.1, PC-2.2, PC-3.1 Find the vertex of a quadratic Find the axis of symmetry of a quadratic Find the $x$ -intercepts of a graph Find the $y$ -intercept of a graph
43 – 48	Determine the equation of a quadratic given its graph
53 – 64	Find the vertex of a quadratic
65 – 84	Solve word problems involving quadratic functions: PC-1.3

### §3.2

Problems	Skill(s) and Standard(s)
1 – 15	Use transformations to sketch the graph of a power function: PC-2.2

### §3.3

Problems	Skill(s) and Standard(s)
1 – 10	Identify a function as being polynomial Determine the degree of a polynomial
11 – 18	Write a polynomial with a given degree and set of zeros
19 – 30	Determine the real zeros of a polynomial: PC-3.3, PC-3.6 Determine the multiplicity of a zero of a polynomial Determine the graphic behavior of a polynomial near a zero (touch, cross) Find a power function that models the end behavior of a polynomial
31 – 54	Find the $x$ -intercepts of a graph Find the $y$ -intercept of a graph

	Determine the graphic behavior of a polynomial near a zero (touch, cross) Find a power function that models the end behavior of a polynomial Determine the number of turns in a graph of a polynomial
55 – 64	Find the $x$ -intercepts of a graph Find the $y$ -intercept of a graph Find a power function that models the end behavior of a polynomial Determine the number of turns in a graph of a polynomial
65 – 68	Write the equation of a polynomial given a sketch of its graph: PC-2.3

### §3.4

Problems	Skill(s) and Standard(s)
1 – 12	Determine the domain of a rational function: PC-2.5, PC-3.4
13 – 22	Determine the domain of a rational function: PC-2.5, PC-3.4 Determine the range of a rational function: PC-2.5, PC-3.4 Determine the axis intercepts of a rational function: PC-3.4 Identify any horizontal asymptotes of a rational function: PC-3.4 Identify any vertical asymptotes of a rational function: PC-3.4 Identify any oblique asymptotes of a rational function: PC-3.4
23 – 34	Graph a rational function using transformations
35 – 46	Identify any horizontal asymptotes of a rational function: PC-3.4 Identify any vertical asymptotes of a rational function: PC-3.4 Identify any oblique asymptotes of a rational function: PC-3.4

### §3.5

Problems	Skill(s) and Standard(s)
1 – 38	Sketch the graph of a rational function: PC-2.1, PC-2.2, PC-3.1
39 – 42	Write the equation of a rational function given its graph: PC-2.3
43, 44	Write the equation of a rational function, given some defining characteristics of the function
45 – 54	Solve word problems involving rational functions: PC-1.3, PC-3.8, PC-3.9

### §3.6

Problems	Skill(s) and Standard(s)
1 – 58	Solve polynomial inequalities: PC-3.10, PC-3.11 Solve rational inequalities
59, 60	Solve word problems involving polynomial inequalities: PC-1.3, PC-3.5, PC-3.10, PC-3.11
61 – 64	Find the domain of a radical function: PC-2.5
65 – 70	Solve word problems involving polynomial inequalities: PC-1.3, PC-3.5, PC-3.10, PC-3.11

### §3.7

Problems	Skill(s) and Standard(s)
1 – 10	Determine if a binomial is a factor of a polynomial
11 – 22	Determine the maximum number of real zeros of a polynomial Determine the potential number(s) of real zeros of a polynomial: PC-3.2

29 – 46	Determine the real zeros of a polynomial: PC-3.3, PC-3.6 Factor a polynomial across the real numbers
47 – 52	Determine the real zeros of a polynomial using technology: PC-2.4, PC-3.3 PC-3.7
53 – 62	Find all real zeros to a polynomial equation: PC-2.4, PC-3.3, PC-3.6, PC-3.7
69, 70	Solve word problems involving polynomials: PC-1.3, PC-3.5
71, 72	Determine the coefficient that makes a given binomial a factor of a given polynomial
73, 74	Find the remainder when a polynomial is divided by a binomial

### §3.8

Problems	Skill(s) and Standard(s)
1 – 16	Write the equation of a polynomial with given zeros and degree
17 – 34	Determine all complex zeros of a polynomial: PC-2.4, PC-3.3

### Chapter 03 Review

1 – 78, 87 – 100, 103

### Chapter 04

#### §4.1

Problems	Skill(s) and Standard(s)
5 – 8	Determine if a relation is a function
9 – 14	Determine if a function is one to one: PC-2.8
15 – 20	Draw the graph of the inverse function, given the graph of the function
21 – 30	Show that two functions are inverses
31 – 54	Find the inverse of a function: PC-2.9 Find the domain of the inverse function: PC-2.5 Find the range of the inverse function: PC-2.5
55, 56	Find the inverse of a function: PC-2.9
57, 58	Extension Problems
59, 60	Find a restriction on the domain of a function so that it becomes one to one
61	Show that two functions are inverses
62, 63	Find the inverse of a function PC-2.9
64	Extension Problem

#### §4.2

Problems	Skill(s) and Standard(s)
11 – 18	Match the equation to the graph of an exponential function: PC-2.3
19 – 34	Use transformations to graph exponential functions: PC-2.1, PC-2.2, PC-4.3
37 – 42	Determine the equation of an exponential function, given its graph: PC-2.3
43 – 60	Solve exponential equations: PC-2.4, PC-4.5, PC-4.8, PC-4.9
61 – 74	Solve exponential word problems: PC-1.3, PC-2.4, PC-4.5, PC-4.6, PC-4.8, PC-4.9
77 – 80	Extension Problems

§4.3

Problems	Skill(s) and Standard(s)
1 – 24	Convert between exponential and logarithmic forms
25 – 36	Evaluate logarithmic expressions
37 – 46	Find the domain of a logarithmic function: PC-2.5, PC-4.4
47 – 50	Evaluate logarithmic expressions
51, 52	Extension Problems
53 – 60	Match the equation of a logarithmic function to its graph: PC-2.3
61 – 84	Use transformations to graph logarithmic functions: PC-2.1, PC-2.2
85 – 104	Solve logarithmic equations: PC-2.4, PC-4.7, PC-4.10, PC-4.11
105 – 108	Graph exponential functions: PC-2.1, PC-2.2 Find the domain of an exponential function: PC-2.5, PC-4.3 Find the range of an exponential function: PC-2.5, PC-4.3 Find the inverse function of an exponential function: PC-2.9 Find the domain of a logarithmic function: PC-2.5, PC-4.4 Find the range of a logarithmic function: PC-2.5, PC-4.4
109 – 122	Solve word problems involving exponential functions: PC-1.3, PC-2.4, PC-4.5, PC-4.6, PC-4.8, PC-4.9 Solve word problems involving logarithmic functions: PC-1.3, PC-2.4, PC-4.7, PC-4.10, PC-4.11

§4.4

Problems	Skill(s) and Standard(s)
1 – 16	Use the properties of logarithms to evaluate expressions Use the properties of exponentials to evaluate expressions
17 – 24	Use the properties of logarithms to rewrite logarithmic expressions
25 – 44	Use the properties of logarithms to expand logarithmic expressions
45 – 58	Use the properties of logarithms to collapse logarithmic expressions
59, 60	Use the properties of logarithms to write exponential expressions as linear expressions
61 – 68	Use the Change of Base formula to evaluate logarithmic expressions
69 – 74	Use the Change of Base formula to graph logarithmic functions: PC-2.1, PC-2.2
75 – 84	Solve logarithmic equations: PC-2.4, PC-4.7, PC-4.10, PC-4.11
85 – 88	Use the properties of logarithms to evaluate logarithmic expressions
89 – 98	Use the properties of logarithms to verify equations

§4.5

Problems	Skill(s) and Standard(s)
1 – 60	Solve equations involving logarithms and exponentials: PC-2.4, PC-4.5, PC-4.7, PC-4.8, PC-4.9, PC-4.10, PC-4.11

§4.6

Problems	Skill(s) and Standard(s)
1 – 10	Determine the final value of compound interest investments
11 – 20	Find the principal required for a given final value of a compound interest

	investment
21	Find the effective interest rate, given the APR
22	Find the APR, given the effective interest rate
23, 24	Find the APR required for a given final value of a compound interest investment
25 – 28	Determine which investment plan will give a higher final value
29 – 48	Solve word problems involving compound interest: PC-1.3, PC-2.4, PC-4.7, PC-4.8, PC-4.9, PC-4.10, PC-4.11

#### §4.7

Problems	Skill(s) and Standard(s)
1 – 12	Solve exponential growth and decay word problems: PC-1.3, PC-2.4, PC-4.5, PC-4.6, PC-4.8, PC-4.9
17 – 25	Solve exponential growth and decay word problems: PC-1.3, PC-2.4, PC-4.5, PC-4.6, PC-4.8, PC-4.9

#### Chapter 04 Review

1 – 79, 81, 83 – 85

#### Chapter 05

##### §5.1

Problems	Skill(s) and Standard(s)
13 – 24	Convert an angle from degrees to radians: PC-5.2
25 – 36	Convert an angle from radians to degrees: PC-5.2
37 – 44	Given two of the radius, central angle and arc length, solve for the other piece
45 – 52	Given two of the radius, central angle and sector area, solve for the other piece
53 – 56	Given the radius and central angle, find the arc length and sector area
57 – 62	Convert an angle from degrees to radians: PC-5.2
63 – 68	Convert an angle from radians to degrees: PC-5.2
69 – 74	Convert an angle from DMS form to decimal form
75 – 80	Convert an angle from decimal form to DMS form
81 – 103	Solve word problems involving arc length and sector area

##### §5.2

Problems	Skill(s) and Standard(s)
1 – 8	Evaluate trigonometric functions based on a point in space: PC-5.6
9 – 18	Evaluate trigonometric functions of special angles: PC-5.6
19 – 38	Evaluate expressions with trigonometric functions of special angles: PC-5.6
39 – 56	Evaluate trigonometric functions of special angles: PC-5.6
57 – 72	Evaluate trigonometric functions of any angle: PC-5.6
73 – 82	Evaluate trigonometric functions based on a point in space: PC-5.6
83 – 90	Evaluate trigonometric functions using angle and function relationships: PC-5.6
91 – 102	Evaluate expressions with trigonometric functions of special angles: PC-5.6

103 – 104	Evaluate expressions with trigonometric functions of any angle: PC-5.6
105 – 111	Solve word problems involving trigonometric functions

### §5.3

Problems	Skill(s) and Standard(s)
1 – 16	Use the periodic properties to evaluate trigonometric functions
17 – 22	Determine the quadrant in which an angle lies, given the signs of two trigonometric functions
25 – 32	Find the value of the four other trigonometric function, given the values of two: PC-5.6
33 – 48	Find the value of the five other trigonometric functions, given the value of one and information about the location of the angle: PC-5.6
49 – 66	Use the even-odd properties to evaluate trigonometric functions: PC-5.6
67 – 78	Use properties of trigonometric functions to evaluate expressions involving trigonometric functions: PC-5.6
79 – 82	Use the periodic properties to evaluate expressions involving trigonometric functions: PC-5.6
83, 84	Extension Problems
85 – 90	Determine the domain of a trigonometric function: PC-2.5, PC-5.5
91 – 96	Determine the range of a trigonometric function: PC-2.5, PC-5.5
97 – 102	Determine whether a trigonometric function is even, odd or neither: PC-2.6
103 – 108	Use properties of trigonometric functions to evaluate expressions involving trigonometric functions: PC-5.6
109	Solve word problems involving trigonometric functions

### §5.4

Problems	Skill(s) and Standard(s)
11, 12	Match the graph to the equation – Trigonometric Functions
13 – 28	Use transformations to graph trigonometric functions: PC-2.2
29 – 38	Determine the amplitude and period of trigonometric functions
39 – 52	Match the graph to the equation – Trigonometric Functions
53 – 62	Use transformations to graph trigonometric functions: PC-2.2
63 – 66	Write the equation of the sine function with a given amplitude and period
67 – 78	Write the equation of the sine function from a given graph: PC-2.3
79 – 84	Solve word problems involving trigonometric functions
85, 86	Use transformations to graph trigonometric functions: PC-2.2

### §5.5

Problems	Skill(s) and Standard(s)
11 - 14	Match the graph to the equation – Trigonometric Functions
15 – 34	Use transformations to graph trigonometric functions: PC-2.2
35	Solve word problems involving trigonometric functions

§5.6

Problems	Skill(s) and Standard(s)
1 – 12	Determine the amplitude, period and phase shift of a trigonometric function from its equation Use transformations to graph trigonometric functions: PC-2.2
17, 18	Solve word problems involving trigonometric functions

Chapter 05 Review

1 – 90

Chapter 06

§6.1

Problems	Skill(s) and Standard(s)
1 – 12	Evaluate expressions involving inverse trigonometric functions (without calculator): PC-5.6
13 – 24	Evaluate expressions involving inverse trigonometric functions (with calculator): PC-5.6
25 – 32	Evaluate expressions involving trigonometric functions and their inverses (without calculator): PC-5.6
33 – 44	Extension Problems
45 – 50	Evaluate expressions involving trigonometric functions and their inverses (with calculator): PC-5.6

§6.2

Problems	Skill(s) and Standard(s)
1 – 28	Evaluate expressions involving trigonometric functions and their inverses (without calculator): PC-5.6
29 – 36	Evaluate expressions involving inverse trigonometric functions (without calculator): PC-5.6
37 – 48	Evaluate expressions involving inverse trigonometric functions (with calculator): PC-5.6

§6.3

Problems	Skill(s) and Standard(s)
1 – 80	Verify trigonometric identities: PC-5.14

§6.4

Problems	Skill(s) and Standard(s)
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1 – 30	Use sum/difference identities to evaluate trigonometric expressions (without calculator)
31 – 56	Verify trigonometric identities involving sum/difference identities: PC-5.14
57 – 68	Evaluate expressions involving trigonometric functions and their inverses using sum/difference identities (without calculator): PC-5.6
69 – 74	Simplify expressions involving trigonometric functions and their inverses using sum/difference identities

### §6.5

Problems	Skill(s) and Standard(s)
1 – 12	Use double/half angle identities to evaluate trigonometric expressions (without calculator)
13 – 22	Use half angle identities to evaluate trigonometric expressions (without calculator)
29 – 50	Verify trigonometric identities involving double/half angle identities: PC-5.14
51 – 62	Use double/half angle identities to evaluate expressions involving trigonometric functions and their inverses (without calculator)

### §6.6

Problems	Skill(s) and Standard(s)
1 – 10	Use product to sum formulas to reduce expressions
11 – 18	Use sum to product formulas to reduce expressions
19 – 36	Verify trigonometric identities involving sum to product and product to sum identities: PC-5.14

### §6.7

Problems	Skill(s) and Standard(s)
1 – 10	Find general solutions to trigonometric equations
11 – 34	Find solutions to trigonometric equations on a specified interval (without calculator): PC-5.10
35 – 42	Find solutions to trigonometric equations on a specified interval (with calculator): PC-5.11

### §6.8

Problems	Skill(s) and Standard(s)
1 – 38	Find solutions to trigonometric equations on a specified interval (without calculator): PC-5.10
39 – 44	Find solutions to trigonometric equations on a specified interval (with calculator): PC-5.11
45 – 56	Find general solutions to trigonometric equations (with calculator): PC-5.10
57(a)(c)	Find solutions to trigonometric equations on a specified interval (without calculator): PC-5.10

	Find the maximum value of an equation involving trigonometric functions (with calculator)
58(a)(c)	Find solutions to trigonometric equations on a specified interval (without calculator): PC-5.10 Find the maximum value of an equation involving trigonometric functions (with calculator)

## Chapter 06 Review

1 – 112

## Chapter 07

### §7.1

Problems	Skill(s) and Standard(s)
1 – 10	Solve right triangles
11 – 20	Evaluate expressions involving trigonometric functions (without calculator)
21 – 40	Solve right triangles
41 – 63	Use right triangles to solve word problems: PC-1.3, PC-5.8

### §7.2

Problems	Skill(s) and Standard(s)
1 – 28	Use the Law of Sines to solve triangles: PC-5.12
29 – 47	Use the Law of Sines to solve word problems: PC-1.3, PC-5.8, PC-5.12

### §7.3

Problems	Skill(s) and Standard(s)
1 – 24	Use the Law of Cosines to solve triangles: PC-5.12 Use the Law of Sines to solve triangles: PC-5.12
25 – 34	Use the Law of Cosines to solve word problems: PC-1.3, PC-5.8, PC-5.12 Use the Law of Sines to solve word problems: PC-1.3, PC-5.8, PC-5.12

### §7.4

Problems	Skill(s) and Standard(s)
1 – 23	Find the area of a triangle: PC-5.9
25 – 30	Solve word problems involving the area of a triangle: PC-1.3, PC-5.8, PC-5.9

### §7.5

Problems	Skill(s) and Standard(s)
1 – 4	Write the equation of simple harmonic motion: PC-5.7
9 – 16	Use the equation of simple harmonic motion to answer questions about the motion:

	PC-1.5
23 – 28	Use the equation of damped harmonic motion to answer questions about the motion: PC-1.5

Chapter 07 Review

1 – 54, 58, 59, 61 – 66, 69, 70

Chapter 08

§8.1

Problems	Skill(s) and Standard(s)
1 – 8	Match polar coordinates to the graph
9 – 20	Plot polar coordinates: PC-5.3
21 – 28	Give alternate coordinates for a point given in polar coordinates
29 – 44	Convert from polar to rectangular coordinates
45 – 56	Convert from rectangular to polar coordinates
57 – 64	Convert an equation from rectangular to polar coordinates
65 – 72	Convert an equation from polar to rectangular coordinates

§8.2

Problems	Skill(s) and Standard(s)
1 – 16	Convert an equation from polar to rectangular coordinates Graph polar equations: PC-5.3
17 – 30	Match the polar equation to the graph
31 – 64	Graph polar equations: PC-5.3

§8.3

Problems	Skill(s) and Standard(s)
1 – 12	Plot complex numbers in the complex plane
13 – 22	Convert complex numbers from polar to rectangular form
23 – 30	Multiply complex numbers Divide complex numbers
31 – 42	Find powers of complex numbers
43 – 50	Find roots of complex numbers

§8.4

Problems	Skill(s) and Standard(s)
1 – 8	Graph linear combinations of given vectors
9 – 16	Determine whether a statement about given vectors is true or false
17, 18	Find the norm of scalar multiple of a vector with a given norm
19 – 26	Write vectors given with initial and terminal points as linear combinations of

	orthogonal unit vectors
27 – 32	Find the norm of a vector
33 – 38	Find linear combinations of given vectors Find the norm of linear combinations of given vectors
39 – 44	Find a unit vector in the same direction as a given vector
49 – 54	Write vectors given with magnitude and direction as linear combinations of orthogonal unit vectors
55 – 58	Solve word problems involving vectors: PC-1.3

### §8.5

Problems	Skill(s) and Standard(s)
1 – 10	Find the dot product of two vectors Determine the angle between two vectors Determine if two vectors are parallel or orthogonal
11, 12	Solve for the missing parameter so that two vectors are orthogonal
19 – 22	Solve word problems involving vectors: PC-1.3
25 – 28	Solve word problems involving vectors: PC-1.3

### §8.6

Problems	Skill(s) and Standard(s)
9 – 14	Find the distance between two points
21 – 26	Write vectors given with initial and terminal points as linear combinations of orthogonal unit vectors
27 – 32	Find the norm of a vector
33 – 38	Find linear combinations of given vectors Find the norm of linear combinations of given vectors
39 – 44	Find a unit vector in the same direction as a given vector
45 – 52	Find the dot product of two vectors Determine the angle between two vectors
53 – 60	Find the direction angles of a vector in three space

### §8.7

Problems	Skill(s) and Standard(s)
1 – 8	Find the determinant of a $3 \times 3$ matrix
9 – 16	Find the cross product of two vectors
17 – 34	Find the cross product of expressions involving vectors
35 – 38	Find a vector orthogonal to two given vectors
39 – 46	Find the area of a parallelogram

### Chapter 08 Review

1 – 102, 113, 114, 116

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Chapter 09

§9.2

1 – 14, 15 – 30 (don't worry about the latus rectum), 31 – 60, 63 – 66

§9.3

1 – 54, 61, 62

§9.4

1 – 52, 57, 58

§9.6

19 – 30

§9.7

1 – 20 (just find the rectangular equation), 21 – 30 (don't graph the equations simultaneously)

Chapter 09 Review

1 – 20 (write in standard form; identify type and major features), 21 – 36, 59 – 62, 63 – 68 (write in rectangular form), 73 – 77, 80 – 83

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Chapter 10

§10.1

1 – 56

§10.2

3 – 27

§10.3

33 – 82

§10.4

1 – 46

§10.5

1 – 66

§10.7

1 – 82

Chapter 10 Review

1 – 58, 69 – 78, 97 – 105

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Chapter 11

§11.1  
1 – 74

§11.2  
1 – 50

§11.3  
1 – 66

§11.5  
25 – 40

Chapter 11 Review  
1 – 46, 55 – 67