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# NUAMES

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[www.nuames.org](http://www.nuames.org)

# Course Syllabus (revised 8/2016)

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<b>Course Title:</b>	Secondary Mathematics III
<b>Course Schedule:</b>	Full year
<b>Reference Text:</b>	McDougal Littell Algebra 2, Larson, Boswell, Kanold, Stiff, 2007.
<b>Web Resources:</b>	<a href="http://www.cbennett.nuames.org/">http://www.cbennett.nuames.org/</a>
<b>Instructor's Name:</b>	Cory Bennett
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<b>School Address:</b>	2750 N. University Park Blvd. Layton, UT 84041
<b>Davis District E-mail Address:</b>	<a href="mailto:cbennett@dsdmail.net">cbennett@dsdmail.net</a>
<b>E-mail Address:</b>	<a href="mailto:cbennett_nuames@comcast.net">cbennett_nuames@comcast.net</a>
<b>Availability:</b>	Monday-Thursday 2:40 - 3:15 PM Friday 2:40 - 3:00 PM

## **Welcome and Course Overview**

This course begins a demonstration and examination of various concepts of basic algebra. It assists in building skills for performing specific mathematical operations and problem solving. These concepts and skills serve as a foundation for subsequent quantitative coursework. Applications to real-world problems are emphasized throughout the course. Specific applications to disciplines such as analytical geometry, trigonometry, logarithms, and matrices are reviewed. This course may be preparatory to the college offering of Math 1050-1060 sequence, although the content is quite similar. Math is a language of logical thinking using symbols and numbers to quantify.

## **Instructor Bio**

My name is Cory Bennett and this is my tenth year teaching mathematics at NUAMES. During my summers, I train for PowerSchool. I am widely traveled during that time but enjoy being close to my mountain home. I also instruct math courses for the Apollo group (University of Phoenix) online and local classes.

I have taught mathematics and computer science (among other subjects) for over 30 years in the public education system. I spent most of my time in Idaho pausing briefly to get my MS in Mathematics/Computer Science Education from Oregon State. I had some great experiences working with the students as an athletic coach, musical (stage) director and academic champion. During these years, I also taught community education, instructed college courses, and did commercial application software training and consultation. I also spent three years teaching mathematics at Adele C. Young Intermediate in Brigham City.

I like to spend most of my free time with my family, all of whom have left the nest (sometimes we have to travel as they live all over the country). My wife and I are parents to six children and twenty lovely grandchildren.

I live right on the mountain. This affords me a scenic view of the valley and of the Great Salt Lake. There are also miles and miles of trails to hike, and I love to hike! When I have spare time, I work in the yard and with my gardens. We also spend time touring the intermountain west in our RV with a National Parks pass.

## **CONTENT**

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### **Unit 1: Polynomials, Rational, and Radical Relationships**

#### **Chapter 2 Linear Equations and Functions**

- Lesson 2.1** Represent Relations and Functions
- Lesson 2.2** Find Slope and Rate of Change
- Lesson 2.3** Graph Equations of Lines
- Lesson 2.4** Write Equations of Lines
- Lesson 2.6** Draw Scatter Plots and Best-Fitting Lines
- Lesson 2.7** Use Absolute Value Functions and Transformations
- Lesson 2.8** Graph Linear Inequalities in Two Variables

#### **Chapter 4 Quadratic Functions and Factoring**

- Lesson 4.1** Graph Quadratic Functions in Standard Form
- Lesson 4.2** Graph Quadratic Functions in Vertex or Intercept Form
- Lesson 4.3** Solve  $x^2 + bx + c = 0$  by Factoring
- Lesson 4.4** Solve  $ax^2 + bx + c = 0$  by Factoring
- Lesson 4.5** Solve Quadratic Equations by Finding Square Roots
- Lesson 4.6** Perform Operations with Complex Numbers
- Lesson 4.7** Complete the Square
- Lesson 4.8** Use the Quadratic Formula and the Discriminant
- Lesson 4.9** Graph and Solve Quadratic Inequalities
- Lesson 4.10** Write Quadratic Functions and Models

#### **Chapter 5 Polynomials and Polynomial Functions**

- Lesson 5.1** Use Properties of Exponents
- Lesson 5.2** Evaluate and Graph Polynomial Functions
- Lesson 5.3** Add, Subtract, and Multiply Polynomials
- Lesson 5.4** Factor and Solve Polynomial Equations
- Lesson 5.5** Apply the Remainder and Factor Theorems
- Lesson 5.6** Find Rational Zeros
- Lesson 5.7** Apply the Fundamental Theorem of Algebra
- Lesson 5.8** Analyze Graphs of Polynomial Functions
- Lesson 5.9** Write Polynomial Functions and Models

#### **Chapter 8 Rational Functions**

- Lesson 8.1** Model Inverse and Joint Variation

- Lesson 8.2 Graph Simple Rational Functions
- Lesson 8.3 Graph General Rational Functions
- Lesson 8.4 Multiply and Divide Rational Expressions
- Lesson 8.5 Add and Subtract Rational Expressions
- Lesson 8.6 Solve Rational Equations

## **Unit 2: Trigonometry of General Triangles and Trigonometric Functions**

### **Chapter 13 Trigonometric Ratios and Functions**

- Lesson 13.1 Use Trigonometry with Right-Triangles
- Lesson 13.2 Define General Angles and Use Radian Measure
- Lesson 13.3 Evaluate Trigonometric Functions on Any Angle
- Lesson 13.4 Evaluate Inverse Trigonometric Functions
- Lesson 13.5 Apply the Law of Sines
- Lesson 13.6 Apply the Law of Cosines

## **Unit 3: Mathematical Modeling**

### **Chapter 3 System of Linear Equations and Inequalities**

- Lesson 3.1 Solve Linear Systems by Graphing
- Lesson 3.2 Solve Linear Systems Algebraically
- Lesson 3.3 Graph Systems of Linear Inequalities
- Lesson 3.4 Solve Systems of Linear Equations in Three Variables

### **Chapter 6 Rational Exponents and Radical Functions**

- Lesson 6.1 Evaluate nth Roots and Use Rational Exponents
- Lesson 6.2 Apply Properties of Rational Exponents
- Lesson 6.3 Perform Function Operations and Composition
- Lesson 6.4 Use Inverse Functions
- Lesson 6.5 Graph Square Roots and Cube Root Functions
- Lesson 6.6 Solve Radical Equations

### **Chapter 7 Exponential and Logarithmic Functions**

- Lesson 7.1 Graph Exponential Growth Functions
- Lesson 7.2 Graph Exponential Decay Functions
- Lesson 7.3 Using Functions Involving  $e$
- Lesson 7.4 Evaluate Logarithms and Graph Logarithmic Functions
- Lesson 7.5 Apply Properties of Logarithms
- Lesson 7.6 Solve Exponential and Logarithmic Equations
- Lesson 7.7 Write and Apply Exponential and Power Functions

## **Unit 4: Inferences and Conclusions from Data**

### **Chapter 11 Data Analysis & Statistics**

- Lesson 11.1 Find Measures of Central Tendency and Dispersion
- Lesson 11.2 Apply Transformations to Data
- Lesson 11.3 Use Normal Distributions
- Lesson 11.4 Select and Draw Conclusions from Samples
- Lesson 11.5 Choose the Best Model For Two-Variable Data

### **Chapter 10 Counting Methods and Probability**

- Lesson 10.1 Apply the Counting Principle and Permutations
- Lesson 10.2 Using Combinations and the Binomial Theorem
- Lesson 10.3 Define and Use Probability
- Lesson 10.4 Finding Probabilities of Disjoint and Overlapping Events
- Lesson 10.5 Find Probabilities of Independent and Dependent Events
- Lesson 10.6 Construct and Interpret Binomial Distributions

## Chapter 12 Sequences and Series

- Lesson 12.1 Define and Use Sequences and Series
- Lesson 12.2 Arithmetic Series and Sequences
- Lesson 12.3 Geometric Series and Sequences
- Lesson 12.4 Sums of Infinite Geometric Series
- Lesson 12.5 Use Recursive Rules with Sequences and Functions

## **GRADING CATEGORIES (BASED ON TOTAL TERM POINTS)**

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**Tests.** There will be a test at the conclusion of each chapter. The composition of the test will include an emphasis on the current chapter and include concepts from previous chapters. Tests are worth 100 points. The test may be made up one time, for one-half the remaining point value. **The make up must occur before the next chapter test.** Tests may be made up by reworking the problems marked incorrect on the original test. This may be done on a separate sheet of paper, **showing all work**, or with the instructor after school.

Original tests earning less than 60% **must be made up with the instructor**, either after school or by appointment. **In addition, students scoring less than 60% on the original test must re-test (in addition to correcting the original test).** The make-up on the original test and the re-test must be done prior to the next chapter test. The score for this test will **replace** the score of the original.

### ***Final Examination***

There is a comprehensive final examination for this course given at the end of the fourth quarter.

**Quizzes.** There may be a quiz on **any** given day. Scores may or may not be taken. Graded quizzes may be made up one time for full credit. There is a review quiz given just prior to the chapter test, which acts as an “exemption quiz”. Students with no errors or only one error may receive exemption status for the chapter test. This quiz may also be made up one time for full credit. Quizzes may be made up by reworking the problems marked incorrect on the original quiz. This may be done on a separate sheet of paper, **showing all work**, or with the instructor after school. The make-up must occur before the chapter test.

**Homework/Assignments.** There will be a daily assignment, which may be completed in class, but generally will be done outside the classroom. Appropriate documentation (work) must accompany the answers for full credit. Students successfully completing the assignment will be given 2 points for the assignment. The assignment must be handed in on the due date to receive full credit. Generally, assignments given one day are due at the next class meeting. Only 1 point is given for completing a late assignment. Late assignments may only be accepted before the chapter test is administered.

**Classwork/Technology.** Periodically an extra-credit activity will be given to be done during class. This practice/assessment may involve using the TI-Nspire calculator (classroom set). These assignments are due at the end of class and are worth from 1-5

points, depending on intensity and time required. No late submissions will be accepted on this extra-credit activity.

## ***POLICIES AND PROCEDURES***

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### ***Attendance and participation***

Students should be in their seats at the start of class. All preparation, including the gathering of materials should be done prior to start of class. Materials include book, notebook, journal, pencils, and calculator (when appropriate). Students should be ready to work at the start of class, and not preparing. A student may be marked tardy if he/she is not in their seat with the appropriate materials. The citizenship grade will be decreased one level after the third tardy of the term. On the fifth tardy, the citizenship grade will become a 'U'. **Since the pace of the course is demanding, excessive absences or tardies could obviously diminish one's grade.**

Students are expected to be active in class discussions during the presentation session. Adequate time will generally be allowed during class to work and complete an assignment. Students should be doing their work in class during the time allotted. Sidebar conversation is discouraged during the presentation of material.

**Use of electronic devices, including cell phones, PDA's, and media players is forbidden, as they provide distraction to the educational environment. Such devices will be confiscated according to school policy.** Calculators may be used during the work session, as is appropriate.

### ***Use of calculators***

The recommended calculator is the TI-84, and if needed, the TI-83 may suffice. Each student **must** have their own calculator. Games during class time are prohibited.

### ***Late assignments***

Late assignments may be awarded 1 point. They will be accepted only during the current chapter, unless prior arrangements have been made with the instructor. Late assignments may only be accepted before the chapter test is administered. All makeup work is due a week before the end of the term.

### ***Feedback***

Grades will be posted daily and made available for student and parental review on the Davis Schools web site (<http://www.davis.k12.ut.us/>). Student may request a hardcopy progress report from the instructor at any time.

### ***Academic Honesty***

Academic honesty is highly valued at the NUAMES. You must always submit work that represents your own efforts. While it is appropriate to work with others in obtaining a solution, it is inappropriate to copy directly and submit it as your own work.

### ***Management.***

Students are expected to adhere to the school and class rules. Deviations and distractions will be dealt with accord to school policy. Certain additional rules may be applied to adhere to the Weber State Campus Code of Conduct.

### ***Web Resources***

On the web site <http://www.cbennett.nuames.org/> there are the following resources:

- schedule of assignments
- links for instructor notes
- PPT Presentations
- links for graphing programs (TI-84)

**Grade Scale**

<b>Grade</b>	<b>Percent range</b>	<b>Remarks</b>
A	94 - 100+	Excellent work.
A-	90 - 93	
B+	87 - 89	Good work. Should be the lowest grade earned in class.
B	84 - 86	
B-	80 - 83	
C+	77 - 79	Below class expectations. Usually given as a consolation for lack of performance.
C	74 - 76	
C-	70 - 73	
D	60-69	Poor performance. Competency has not been demonstrated.
F	Below 60	Does not meet class expectations. Grade requires work to meet passing standard.

**Schedule of Assignments (subject to change)**

Session	Topic	Assignment
1	<b>Lesson 2.1 Represent Relations and Functions</b> <ul style="list-style-type: none"> <li>✓ Relation</li> <li>✓ Domain</li> <li>✓ Range</li> <li>✓ Function</li> <li>✓ Equation in two variables</li> <li>✓ Linear function</li> </ul>	<b>77:</b> 3–13,25-30,42–45,51–57 <a href="#">2.1 Challenge Practice</a> <a href="#">TI-Nspire: Intro to TI-Nspire</a>
2	<b>Lesson 2.2 Find Slope and Rate of Change</b> <ul style="list-style-type: none"> <li>✓ Slope</li> <li>✓ Parallel</li> <li>✓ Perpendicular</li> <li>✓ Rate of change</li> <li>✓ Reciprocal</li> </ul>	<b>86:</b> 3–27 (mult/3),41–43,45,46,56–64 <a href="#">2.2 Challenge Practice</a> <a href="#">TI-Nspire Functions</a>
3	<b>Lesson 2.3 Graph Equations of Lines</b> <ul style="list-style-type: none"> <li>✓ Parent function</li> <li>✓ y-intercept</li> <li>✓ Slope-intercept form</li> <li>✓ Standard form of a linear equation</li> <li>✓ x-intercept</li> <li>✓</li> </ul>	<b>93:</b> 13–16,24–29,37–48,60–61 <a href="#">2.3 Challenge Practice</a> <a href="#">TI-Nspire Slope as a Rate</a> <b>Graphing Calculator Activity: 97: 1–4</b>
4	<b>Lesson 2.4 Write Equations of Lines</b> <ul style="list-style-type: none"> <li>✓ Point-slope form</li> </ul>	<b>101:</b> 3–8,12–17,20–25,33–35,40–43,50–52 <a href="#">2.4 Challenge Practice</a>  <b>Quiz 2.1</b>
5	<b>Lesson 2.6 Draw Scatter Plots and Best-Fitting Lines</b> <ul style="list-style-type: none"> <li>✓ Scatter plot</li> <li>✓ Positive correlation</li> <li>✓ Negative correlation</li> <li>✓ Correlation coefficient</li> <li>✓ Line of best-fit</li> </ul>	<b>117:</b> 7–11,19,20,24 <a href="#">2.6 Challenge Practice</a> <b>Graphing Calculator Activity: 121: 1-7,11-13</b>
6	<b>Lesson 2.7 Use Absolute Value Functions and Transformations</b> <ul style="list-style-type: none"> <li>✓ Absolute value function</li> <li>✓ Vertex of an absolute value function</li> <li>✓ Transformation</li> <li>✓ Translation</li> <li>✓ Reflection</li> </ul>	<b>127:</b> 3–17,21–26,36–37 <a href="#">2.7 Challenge Practice</a>  <b>Quiz 2.2</b>



7	<b>Lesson 2.8 Graph Linear Inequalities in Two Variables</b> <ul style="list-style-type: none"> <li>✓ Linear inequality in two variables</li> <li>✓ Solutions of a linear inequality</li> <li>✓ Graph of a linear inequality</li> <li>✓ Half-plane</li> </ul>	<b>135:</b> 5–15, 22–28,43–45 <a href="#">2.8 Challenge Practice</a>  <a href="#">TI-Nspire Linear Inequalities</a>  <a href="#">Quiz 2.3</a>
8	<a href="#">Review Quiz</a>	
9	<a href="#">Test – Chapter 2</a>	
10	<b>Lesson 4.1 Graph Quadratic Functions in Standard Form</b> <ul style="list-style-type: none"> <li>✓ Quadratic Function</li> <li>✓ Parabola</li> <li>✓ Vertex</li> <li>✓ Axis of Symmetry</li> <li>✓ Minimum and Maximum values</li> </ul>	<b>240:</b> 3,4, 8–18 (even),25–29,34,37,38,65-70 <a href="#">4.1 Challenge Practice</a>  <a href="#">Graphing Calculator Activity: 244: 1-6</a>
11	<b>Lesson 4.2 Graph Quadratic Functions in Vertex or Intercept Form</b> <ul style="list-style-type: none"> <li>✓ Vertex Form</li> <li>✓ Intercept Form</li> </ul>	<b>249:</b> 3–21(odd),27–29,36–38,42,57-61 <a href="#">4.2 Challenge Practice</a>  <a href="#">TI-Nspire Vertex and Factored Forms of Quadratics</a>
12	<b>Lesson 4.3 Solve <math>x^2 + bx + c = 0</math> by Factoring</b> <ul style="list-style-type: none"> <li>✓ binomial</li> <li>✓ trinomial</li> <li>✓ root of an equation</li> </ul>	<b>255:</b> 7–11, 18–20, 24–32 (even), 48–52, 59,60,65 <a href="#">4.3 Challenge Practice</a>  <a href="#">TI-Nspire Factoring Trinomials</a>
13	<b>Lesson 4.4 Solve <math>ax^2 + bx + c = 0</math> by Factoring</b> <ul style="list-style-type: none"> <li>✓ monomials</li> </ul>	<b>263:</b> 3-12,16-18,32-37,53-55 <a href="#">4.4 Challenge Practice</a>  <a href="#">Quiz 4.1</a>
14	<b>Lesson 4.5 Solve Quadratic Equations by Finding Square Roots</b> <ul style="list-style-type: none"> <li>✓ square root</li> <li>✓ radical</li> <li>✓ radicand</li> <li>✓ rationalizing the denominator</li> <li>✓ conjugates</li> </ul>	<b>269:</b> 3-16,22-30,52-60(even) <a href="#">4.5 Challenge Practice</a>
15	<b>Lesson 4.6 Perform Operations with Complex Numbers</b> <ul style="list-style-type: none"> <li>✓ complex number</li> <li>✓ complex conjugates</li> <li>✓ complex plane</li> <li>✓ absolute value of a complex number</li> </ul>	<b>279:</b> 6-11,15-20,22-27,34-37,42-45,51-53 <a href="#">4.6 Challenge Practice</a>  <a href="#">TI-Nspire Complex Numbers</a>

16	<b>Lesson 4.7 Complete the Square</b> ✓ completing the square	288: 6-10,12-18,22-27,35,36,41-43,52-54 <a href="#">4.7 Challenge Practice</a>  <a href="#">TI-Nspire Completing the Square</a>
17	<b>Lesson 4.8 Use the Quadratic Formula and the Discriminant</b> $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	296: 6-10,13-18,25-28,31-36,40-45 <a href="#">4.8 Challenge Practice</a>  <a href="#">Quiz 4.2</a>
18	<b>Lesson 4.9 Graph and Solve Quadratic Inequalities</b> ✓ quadratic inequality in two variables ✓ quadratic inequality in one variable	304: 3-14,20-23,28-31,35-39,46-51 <a href="#">4.9 Challenge Practice</a>  <a href="#">TI-Nspire Modeling a Quadratic Function</a>
19	<b>Lesson 4.10 Write Quadratic Functions and Models</b> ✓ best-fitting quadratic model ✓	312: 3-11,15-18,20-22,28-33,40-42,59-61 <a href="#">4.10 Challenge Practice</a>  <a href="#">Quiz 4.3</a>
20	<a href="#">Review Quiz</a>	
21	<a href="#">Test – Chapter 4</a>	
22	<b>Lesson 5.1 Use Properties of Exponents</b> ✓ scientific notation	333: 3-31,43,44 <a href="#">5.1 Challenge Practice</a>
23	<b>Lesson 5.2 Evaluate and Graph Polynomial Functions</b> ✓ polynomial ✓ synthetic substitution ✓ end behavior	341: 3-6,10-13,15-20,27-33,38-45,54 <a href="#">5.2 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 345: 1-8</a>
24	<b>Lesson 5.3 Add, Subtract, and Multiply Polynomials</b> ✓ like terms	349: 3-11,15-21,27-33,38-42,48,49,59 <a href="#">5.3 Challenge Practice</a>
25	<b>Lesson 5.4 Factor and Solve Polynomial Equations</b> ✓ factored completely ✓ factor by grouping ✓ quadratic form	356: 3-7,10-15,20-26,32-37,42-48,51 <a href="#">5.4 Challenge Practice</a>  <a href="#">Quiz 5.1</a>
26	<b>Lesson 5.5 Apply the Remainder and Factor Theorems</b> ✓ polynomial long division ✓ synthetic division	366: 3-7,11-17,21-25,29-32,36 <a href="#">5.5 Challenge Practice</a>  <a href="#">TI-Nspire Checking your Long Division</a>

27	<b>Lesson 5.6 Find Rational Zeros</b> <ul style="list-style-type: none"> <li>✓ zero of a function</li> <li>✓ constant term</li> <li>✓ leading coefficient</li> </ul>	374: 3-7,13-21,24-30,41-43 <a href="#">5.6 Challenge Practice</a>  <a href="#">TI-Nspire Rational Roots</a>
28	<b>Lesson 5.7 Apply the Fundamental Theorem of Algebra</b> <ul style="list-style-type: none"> <li>✓ repeated solution</li> <li>✓ irrational conjugates</li> <li>✓ complex conjugates</li> </ul>	383: 3-15,20-27,34-37,42-46,53,54 <a href="#">5.7 Challenge Practice</a>  <a href="#">Quiz 5.2</a>
29	<b>Lesson 5.8 Analyze Graphs of Polynomial Functions</b> <ul style="list-style-type: none"> <li>✓ local maximum</li> <li>✓ local minimum</li> </ul>	390: 3-8,13-19,22-27,39 <a href="#">5.8 Challenge Practice</a>  <a href="#">Quiz 5.3</a>
30	<a href="#">Review Quiz</a>	
31	<a href="#">Test – Chapter 5</a>	
32	<b>Lesson 8.1 Model Inverse and Joint Variation</b> <ul style="list-style-type: none"> <li>✓ direct variation</li> <li>✓ inverse variation</li> <li>✓ joint variation</li> </ul>	555: 6–9,11,14–17,22,23,26–34,37–39,43,44 <a href="#">8.1 Challenge Practice</a>
33	<b>Lesson 8.2 Graph Simple Rational Functions</b> <ul style="list-style-type: none"> <li>✓ rational functions</li> <li>✓ domain</li> <li>✓ range</li> <li>✓ asymptote</li> </ul>	561: 6–8,13–20,23–26,29–35,37–39,44-48 <a href="#">8.2 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 564: 1-6</a>
34	<b>Lesson 8.3 Graph General Rational Functions</b> <ul style="list-style-type: none"> <li>✓ End behavior</li> <li>✓ Asymptote</li> <li>✓ Rational function</li> </ul>	568: 3–6,9–14,18–27,31–33,38–41 <a href="#">8.3 Challenge Practice</a>  <a href="#">TI-Nspire End Behavior</a>
35	<b>Lesson 8.4 Multiply and Divide Rational Expressions</b> <ul style="list-style-type: none"> <li>✓ Rational expression</li> <li>✓ Reciprocal</li> </ul>	577: 3–5,9–13,18–31,48,60-64 <a href="#">8.4 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 581: 1-6</a>  <a href="#">Quiz 8.1</a>
36	<b>Lesson 8.5 Add and Subtract Rational Expressions</b> <ul style="list-style-type: none"> <li>✓ Complex fraction</li> </ul>	586: 4–6,11–13,17–21,25,26,27–37(odd),43–44,47,50,53,54 <a href="#">8.5 Challenge Practice</a>

37	<b>Lesson 8.6 Solve Rational Equations</b> ✓ Cross multiplying ✓ Extraneous solution	592: 5–13,16–23,26–28,33–35,39,40,44–52 <a href="#">8.6 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 596: 1-4</a>  <a href="#">Quiz 8.2</a>
38	<a href="#">Review Quiz</a>	
39	<a href="#">Test – Chapter 8</a>	
40	<b>Lesson 13.1 Use Trigonometry with Right-Triangles</b> ✓ Sine ✓ Cosine ✓ Tangent ✓ Cosecant ✓ Secant ✓ Cotangent	856: 4–6,10–12,17–20,23–28,30–32 <a href="#">13.1 Challenge Practice</a>
41	<b>Lesson 13.2 Define General Angles and Use Radian Measure</b> ✓ Initial side ✓ Terminal side ✓ Standard position ✓ Coterminal ✓ Radian ✓ Sector ✓ Central angle	862: 3–5,9–11,14,18–20,25–28,31–45 odd, 48,49,56,58,60 <a href="#">13.2 Challenge Practice</a>  <a href="#">TI-Nspire Radian Measure</a>
42	<b>Lesson 13.3 Evaluate Trigonometric Functions on Any Angle</b> ✓ Unit circle ✓ Quadrantal angle ✓ Reference angle	870: 4–15,17–21,25–29,32,35–37,41–46 <a href="#">13.3 Challenge Practice</a>  <a href="#">Quiz 13.1</a>
43	<b>Lesson 13.4 Evaluate Inverse Trigonometric Functions</b> ✓ Inverse sine ✓ Inverse cosine ✓ Inverse tangent	878: 5–8,11,14–16,22–31,35,36,42 <a href="#">13.4 Challenge Practice</a>  <a href="#">TI-Nspire Law of Sines</a>
44	<b>Lesson 13.5 Apply the Law of Sines</b> ✓ Solve triangles that have no right angle.	886: 7–9, 13–16, 21–23, 27, 28, 32–34, 38–41, 43–48, 63, 66 <a href="#">13.5 Challenge Practice</a>  <a href="#">Quiz 13.2</a>

45	<b>Lesson 13.6</b> Apply the Law of Cosines ✓ Solve triangles using the law of cosines.	892: 3–10, 14–17, 20, 24–41, 43–47, 49–51, 55–62 <a href="#">13.6 Challenge Practice</a>  <a href="#">Quiz 13.3</a>
46	<a href="#">Review Quiz</a>	
47	<b>Test – Chapter 13</b>	
48	<b>Lesson 3.1 Solve Linear Systems by Graphing</b> ✓ Systems of linear equations ✓ Consistent ✓ Inconsistent ✓ Independent ✓ Dependent	156: 6–11, 15, 16, 20–25, 28–31, 35–38, 42–52(even) <a href="#">3.1 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 159: 1-4,7</a>
49	<b>Lesson 3.2 Solve Linear Systems Algebraically</b> ✓ Substitution method ✓ Elimination method	164: 6–10, 18–22, 27, 31–35, 40–51, 55–59, 65, 68, 70, 73, 76 <a href="#">3.2 Challenge Practice</a>  <a href="#">Quiz 3.1</a>
50	<b>Lesson 3.3 Graph Systems of Linear Inequalities</b> ✓ System of linear Inequalities ✓ Graph of a system of inequalities	171: 8–12, 16, 21–27, 29, 31, 34–37, 42–52(even) <a href="#">3.3 Challenge Practice</a>
51	<b>Lesson 3.4 Solving Systems of Linear Equations in Three Variables</b> ✓ Linear equations in three variables. ✓ Ordered Triple	182: 9–11, 25–27 <a href="#">3.4 Challenge Practice</a>  <a href="#">iNspire Activity: Solving Systems Using Elimination</a>
53	<b>Lesson 3.5 Perform Basic Matrix Operations</b> ✓ Matrix ✓ Dimensions ✓ Elements ✓ Scalar ✓ Scalar multiplication.	190: 7–9, 13–15, 18–29 <a href="#">3.5 Challenge Practice</a>  <a href="#">Quiz 3.2</a>
54	<b>Lesson 3.6 Multiply Matrices</b> ✓ Matrix ✓ Dimensions ✓ Elements	199: 6–18, 23–25, 46–51 <a href="#">3.6 Challenge Practice</a>  <a href="#">iNspire Activity: Matrix Multiplication</a>

55	<b>Lesson 3.7 Evaluate Determinants and Apply Cramer's Rule</b> <ul style="list-style-type: none"> <li>✓ Determinant</li> <li>✓ Cramer's Rule</li> <li>✓ Coefficient matrix</li> </ul>	207: 7–10, 15–21, 22–28(even), 29–34,40–43, 48, 51, 55, 58 <a href="#">3.7 Challenge Practice</a>  <a href="#">iNspire Activity: Cramer's Rule</a>
56	<b>Lesson 3.8 Use Inverse Matrices to Solve Linear Systems</b> <ul style="list-style-type: none"> <li>✓ Identity matrix</li> <li>✓ Inverse matrices</li> </ul>	214: 3–24, 28–41, 43–47, 51–55 odd, 57–61 <a href="#">3.8 Challenge Practice</a>  <a href="#">Quiz 3.3</a>
57	<a href="#">Review Quiz Ch. 3</a>	
58	<a href="#">Test – Chapter 3</a>	
59	<b>Lesson 6.1 Evaluate nth Roots and Use Rational Exponents</b> <ul style="list-style-type: none"> <li>✓ Nth root of a</li> <li>✓ Index of a radical</li> </ul>	417: 8–20(even),25–28,38–41, 46–49, 50–58 (even), 60–62, 68, 71, 73, 78, 82 <a href="#">6.1 Challenge Practice</a>
60	<b>Lesson 6.2 Apply Properties of Rational Exponents</b> <ul style="list-style-type: none"> <li>✓ Simplest form of a radical</li> <li>✓ Like radicals</li> </ul>	424: 8–11, 19–21, 23, 28–30, 35–37, 41, 42, 46–48, 55–57, 62–64, 67–77 (odd), 83–84, 92, 99, 102 <a href="#">6.2 Challenge Practice</a>
61	<b>Lesson 6.3 Perform Function Operations and Composition</b> <ul style="list-style-type: none"> <li>✓ Power function</li> <li>✓ Composition</li> </ul>	432: 6–8, 11, 15–17, 23–25, 31–39, 43–45, 49, 52, 55, 59, 62 <a href="#">6.3 Challenge Practice</a>  <a href="#">Quiz 6.1</a>
62	<b>Lesson 6.4 Inverse Functions</b> <ul style="list-style-type: none"> <li>✓ Inverse relation</li> <li>✓ Inverse function</li> </ul>	442: 5–10, 12–19, 21, 38-40, 46–47, 58–66 <a href="#">6.4 Challenge Practice</a>  <a href="#">iNspire Activity: Functions and Inverses</a>
63	<b>Lesson 6.5 Graph Square Root and Cube Root Functions</b> <ul style="list-style-type: none"> <li>✓ Radical function</li> <li>✓ Parent function</li> </ul>	449: 5–7, 9, 12–14, 19–21, 25–27, 35–36, 42–58 (even) <a href="#">6.5 Challenge Practice</a>  <a href="#">Quiz 6.2</a>
64	<b>Lesson 6.6 Solve Radical Equations</b> <ul style="list-style-type: none"> <li>✓ Radical equation</li> <li>✓ Extraneous solutions</li> </ul>	456: 5–12, 14–20, 22, 26–30, 36–40, 43, 44, 45–53 odd, 56–57, 63–68, 70–80 (even) <a href="#">6.6 Challenge Practice</a>  <a href="#">Quiz 6.3</a>
65	<a href="#">Review Quiz Ch. 6</a>	

66	<b>Test – Chapter 6</b>	
67	<b>Lesson 7.1 Graph Exponential Growth Functions</b> <ul style="list-style-type: none"> <li>✓ Exponential function</li> <li>✓ Exponential growth</li> <li>✓ Growth factor</li> <li>✓ Asymptote</li> </ul>	482: 3-5,9-12,17-20,24-33,35-38,46,51,54,57,60 <a href="#">7.1 Challenge Practice</a>
68	<b>Lesson 7.2 Graph Exponential Decay Functions</b> <ul style="list-style-type: none"> <li>✓ Exponential decay function</li> <li>✓ Decay factor</li> </ul>	489: 3–6,9–12,15,19–27,30–33,38,41,44,47,49 <a href="#">7.2 Challenge Practice</a>  iNspire Activity: <a href="#">Exponential Transformations</a>
69	<b>Lesson 7.3 Use Functions Involving <math>e</math></b> <ul style="list-style-type: none"> <li>✓ Natural base <math>e</math></li> </ul>	495: 7–11,15–18,23–26,34–36,39–45,51–52,55–58,64,68,70,73 <a href="#">7.3 Challenge Practice</a>
70	<b>Lesson 7.4 Evaluate Logarithms and Graph Logarithmic Functions</b> <ul style="list-style-type: none"> <li>✓ Log of <math>y</math> with base <math>b</math></li> <li>✓ Common logarithm</li> <li>✓ Natural logarithm</li> </ul>	503: 3–7,10–17,22–25,58,59,72–79 <a href="#">7.4 Challenge Practice</a>  <a href="#">Quiz 7.1</a>
71	<b>Lesson 7.5 Apply Properties of Logarithms</b> <ul style="list-style-type: none"> <li>✓ Log of <math>y</math> with base <math>b</math></li> <li>✓ Logarithmic expression</li> </ul>	510: 10–12,21–26,31,32,37–40,43,44,49–54,61–63,69–72,76,79,85,89 <a href="#">7.5 Challenge Practice</a>  iNspire Activity: <a href="#">Properties of Logarithms</a>
72	<b>Lesson 7.6 Solve Exponential and Logarithmic Equations</b> <ul style="list-style-type: none"> <li>✓ Exponential equation</li> <li>✓ Logarithmic equation</li> <li>✓ Extraneous solution</li> </ul>	519: 5–10,14–21,27–31,36–46,54–57,62–70 <a href="#">7.6 Challenge Practice</a>  <a href="#">Quiz 7.2</a>
73	<a href="#">Review Quiz Ch. 7</a>	533: 11-14,23-26
74	<b>Test – Chapter 7</b>	

75	<b>Lesson 11.1 Find Measures of Central Tendency and Dispersion</b> <ul style="list-style-type: none"> <li>✓ Statistics</li> <li>✓ Measure of central tendency</li> <li>✓ Measure of dispersion</li> <li>✓ Standard deviation</li> <li>✓ Outlier</li> </ul>	747: 3–15,19–23,26–30 <a href="#">11.1 Challenge Practice</a>
76	<b>Lesson 11.2 Apply Transformations to Data</b> <ul style="list-style-type: none"> <li>✓ Mean</li> <li>✓ Median</li> <li>✓ Mode</li> <li>✓ Range</li> <li>✓ Standard deviation</li> </ul>	753: 3–16,18–20,26–29 <a href="#">11.2 Challenge Practice</a>  Quiz 11.1
77	<b>Lesson 11.3 Using Normal Distributions</b> <ul style="list-style-type: none"> <li>✓ Normal distribution</li> <li>✓ Normal curve</li> <li>✓ Standard normal distribution</li> <li>✓ Z-score</li> </ul>	760: 4–6, 9–18, 22–24,28,31–33 <a href="#">11.3 Challenge Practice</a>  iNspire Activity: Z-Scores
78	<b>Lesson 11.4 Select and Draw Conclusions from Samples</b> <ul style="list-style-type: none"> <li>✓ Population</li> <li>✓ Sample</li> <li>✓ Unbiased sample</li> <li>✓ Biased sample</li> <li>✓ Margin of error</li> </ul>	769: 3–5,7-11,27,28,29 <a href="#">11.4 Challenge Practice</a>  Quiz 11.2
79	<b>Lesson 11.5 Choose the Best Model for Two-Variable Data</b> <ul style="list-style-type: none"> <li>✓ Linear function</li> <li>✓ Quadratic function</li> <li>✓ Cubic function</li> <li>✓ Exponential function</li> <li>✓ Power function</li> </ul>	778: 3–8, 10–14,16–28(even) <a href="#">11.5 Challenge Practice</a>
80	Review Quiz Ch. 11	784: 1-23
81	Test – Chapter 11	



82	<b>Lesson 10.1 Applying the Counting Principle and Permutations</b> <ul style="list-style-type: none"> <li>✓ Permutation</li> <li>✓ Factorial</li> </ul>	686: 5,8,9,13,14,17,22–25,34–37,42,47–50,55,62–65,73,77,79,82,85,88 <a href="#">10.1 Challenge Practice</a>  iNspire Activity: <a href="#">Permutations and Combinations</a>
83	<b>Lesson 10.2 Use Combinations and the Binomial Theorem</b> <ul style="list-style-type: none"> <li>✓ Combination</li> <li>✓ Pascal's Triangle</li> <li>✓ Binomial theorem</li> </ul>	694: 6–8,15,16,19,21,22,27–29,32–34,48–49 <a href="#">10.2 Challenge Practice</a>  iNspire Activity: <a href="#">Expanding Binomials</a>
84	<b>Lesson 10.3 Define and Use Probability</b> <ul style="list-style-type: none"> <li>✓ Probability</li> <li>✓ Theoretical probability</li> <li>✓ Odds</li> <li>✓ Experimental probability</li> <li>✓ Geometric probability</li> </ul>	701: 4–8,13,14,17–19,22–32,35–36 <a href="#">10.3 Challenge Practice</a>  <a href="#">Quiz 10.1</a>
85	<b>Lesson 10.4 Find Probabilities of Disjoint and Overlapping Events</b> <ul style="list-style-type: none"> <li>✓ Compound event</li> <li>✓ Overlapping events</li> <li>✓ Disjoint or mutually exclusive events</li> </ul>	710: 5–7,11–13,15–17,22–24,26,27,30–39, 716: 1-16 <a href="#">10.4 Challenge Practice</a>
86	<b>Lesson 10.5 Find Probabilities of Independent and Dependent Events</b> <ul style="list-style-type: none"> <li>✓ Independent events</li> <li>✓ Dependent events</li> <li>✓ Conditional probability</li> </ul>	721: 4–7,10–15,17–20,23–31(odd),37-39 <a href="#">10.5 Challenge Practice</a>  <a href="#">Quiz 10.2</a>
87	<b>Lesson 10.6 Construct and Interpret Binomial Distributions</b> <ul style="list-style-type: none"> <li>✓ Random variable</li> <li>✓ Probability distribution</li> <li>✓ Binomial distribution</li> <li>✓ Symmetric</li> <li>✓ Skewed</li> </ul>	727: 3–9,13–15,21–23,30–33 <a href="#">10.6 Challenge Practice</a>  iNspire Activity: <a href="#">Birthday Problem</a>
88	<a href="#">Review Quiz Ch. 10</a>	734: 1-29
89	<a href="#">Test – Chapter 10</a>	

90	<b>Lesson 12.1 Define and Use Sequences and Series</b> ✓ Recognize and write rules for number patterns	798: 7-11,15-20,39-42,45-48 <a href="#">12.1 Challenge Practice</a>  <a href="#">Graphing Calculator Activity 801: 1-5</a>
91	<b>Lesson 12.2 Analyze Arithmetic Sequences and Series</b> ✓ Rules for arithmetic sequences ✓ Sum of arithmetic series	806: 5-8,13-17,23,24,3-32,40-43 <a href="#">12.2 Challenge Practice</a>
92	<b>Lesson 12.3 Analyze Geometric Sequences and Series</b> ✓ Rules for geometric sequences ✓ Sum of geometric series	814: 6-10,17-21,28-30,39-41,48-50 <a href="#">12.3 Challenge Practice</a>  <a href="#">Quiz 12.1</a>
93	<b>Lesson 12.4 Find Sums of Infinite Geometric Series</b> ✓ Sum of infinite geometric series	823: 3,4,9-14,20,21,24-26 <a href="#">12.4 Challenge Practice</a>  <a href="#">iNspire Activity: Recursion</a>
94	<b>Lesson 12.5 Use Recursive Rules with Sequences and Functions</b> ✓ Explicit rules ✓ Recursive rules	830: 5-8,13-16,25-28 <a href="#">12.5 Challenge Practice</a>  <a href="#">Quiz 12.2</a>
95	<a href="#">Review Quiz Ch. 12</a>	
96	<a href="#">Test – Chapter 12</a>	