Black Horse Pike Regional School District

ENGAGING STUDENTS ● FOSTERING ACHIEVEMENT ● CULTIVATING 21ST CENTURY GLOBAL SKILLS

Course Name: Math Foundations III

Course Number: 113130

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra I – Chapter 5 Graphs and Functions** **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit you will graph linear equations and functions. By the end of the unit, you will be able to use slopes and y-intercepts to compare graphs of families of linear functions.**
Essential Question(s): **Essential Question(s):** ● **How do you graph linear equations and functions?** ● **How do changes in a linear equation or function affect their graph?** ● **How do you use graphs of linear equations and functions to solve real- world problems?**	**Enduring Understanding(s):** Students will be able to: ● Identify and plot points in a coordinate plane ● Graph linear equations in a coordinate plane ● Graph linear equations using intercepts ● Find the slope of a line and interpret slope as a rate of change ● Graph linear equations using slope-intercept form ● Write and graph direct variation equations ● Use function notation

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS:**
1. Graph linear equations and functions [Standard] - Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. [Standard] - Graph linear and quadratic functions and show intercepts, maxima, and minima. [Standard] - Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [Standard] - Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. [Standard] - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	**1. MA.9-12.F-IF.C.7.A** **MA.9-12.F-IF.A.1** **2. MA.9-12.F-BF.B.3** **3. MA.9-12.F-LE.A.1**
2. Recognizing changes in linear equations and functions and how it affects their graphs	

[Standard] - For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *[Standard] - Calculate and interpret the average rate of change* of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. [Standard] - Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. **3. Use graphs of linear equations and functions to solve real world problems** [Standard] - Distinguish between situations that can be modeled with linear functions and with exponential functions.	

Inter-Disciplinary Connections:

Real-World problem solving examples:

Comparing votes casted using a graph of a function (p 208), Find the distance a runner travels using a graph of a function(p 218), Find the domain and range of a function that represents the time it takes for a submarine to surface(p 228), Describe a student's commute to school from a graph using rate of change(p 238), Compare the costs of 2 television commercials using a graph (p 246), Represent the cost of downloading songs using a direct variation (p 256), Compare the cable company's discount to its original cost using functions (p 265)

Inter-Disciplinary problem solving examples:

Astronaut Photography (p 210), Weather Data (p 221), Recycling (p 230), Oceanography (p 241), Speed Limits (p 249), Vacation Time (p 258), Movie Tickets (p 267)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:

Chapter 5-1 - Ask the students to draw a graph representing their commutes to and from school p. 253.

Chapter 5-2 - Have students explain the difference between a relation and a function. P. 259.

Chapter 5-3 - Have students brainstorm for advantages and disadvantages of representing functions and using rules, tables and graphs. P. 265.

Chapter 5-4 - Ask students: What question can you ask yourself when using a table to write a function rules? P. 272.

Chapter 5-6 - Have students state the form of a direct variation rule. Ask what K represents? P. 280.

Chapter 5-7 -Ask students to describe how a direct variation and an inverse variation are different.

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 5

Section 5.1:

	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 252 #1-7 • Math Background TE p. 252 • Vocabulary Introduction
Teach **Teaching Options**	• Essential Question: TE p. 252 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 81 • Examples 1–3: p. 252-253 • Additional Examples TE p. 523 • Chapter Resource Book Grab and Go File Chapter 5 p. 1
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 5-1 p. 324 • Guided Practice 254-255 Exercises: #1-12 • Closing the Lesson: TE Quick Check Problems 1-3 p. 252-253
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 254 #1-12 Expressions • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 8 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 15
Accommodations/Modifications:	• Provide students with a kinesthetic graphing experience to help them understand how to graph points. • Have students write out the equation with the value substituted in. *(Reference materials are located in District shared directory, mathematics, modifications /accommodations folder, by chapter and section).*

Section 5.2:

	College Prep
Focus and Motivate **Starting Options**	• Vocabulary Review • Warm-Up (Check Skills You'll Need): TE p. 257 #1-7

	• Math Background TE p. 257
Teach **Teaching Options**	• Essential Question: TE p. 257 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 83 • Examples 1–2: p. 257-258 • Quick Check Problems 1–2 p. 257-258 • Additional Examples TE p. 259 • Chapter Resource Book Grab and Go File Chapter 5 p. 2
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 5-2 p. 326 • Guided Practice Exercises: p. 259-260 • Closing the Lesson: TE Quick Check 1-2
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 259 #1-19 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 9 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 16
Accommodations/Modifications:	• Have students organize their work in a table. • Provide students with a list of values to use for consistency. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 5.3:	
	College Prep
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. p. 263 #1-2 • Math Background TE p. 263
Teach **Teaching Options**	• Essential Question: TE p. 263 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 86 • Examples 1–2: p. 263-264 • Additional Examples TE p. 264-265 • Quick Check Problems 1–2 p. 263-264 • Chapter Resource Book Grab and Go File Chapter 5 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 5-3 p.328 • Guided Practice Exercises: p. 266 #1-23 • Closing the Lesson: Quick Check Problems 1–4 p. 18-20
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 266 #2-22 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra

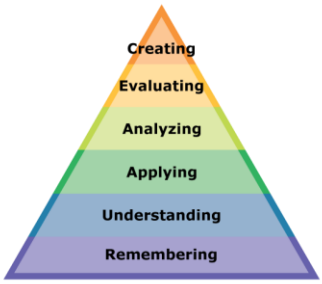
	• Enrichment: Chapter Resource Book p. 17
Accommodations/Modifications:	• Provide students with a table of values and relate the table to points on a graph *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 5.4:	**College Prep**
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. 270 #1-9 • Math Background TE p. 270
Teach **Teaching Options**	• Essential Question: TE p. 270 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 88 • Examples 1–3: p. 270-271 • Additional Examples TE p. 271 • Chapter Resource Book Grab and Go File Chapter 5 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 5-4 p. 330 • Guided Practice Exercises: p. 272 • Closing the Lesson: Quick Check Problems 1–3 p. 270-271
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 272 #1-16 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Encourage students to copy ordered pairs to their own paper before calculating the slope. *ference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 5.5:	**College Prep**
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. 277 #1-6 • Math Background TE p. 277
Teach **Teaching Options**	• Essential Question: TE p. 277 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 90 • Examples 1–3: p. 277-278 • Additional Examples TE p. 279 • Chapter Resource Book Grab and Go File Chapter 5 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 5-5 p. 332 • Guided Practice Exercises: p. 280-281 • Closing the Lesson: Quick Check Problems 1–3 p. 277-278
Practice and Apply	• Average: Day 1: p. 280-281 #2-26 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice,

Assigning Homework	Guided Problem Solving), L4 (Enrichment) ● Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	● Study Guide: Chapter Resource Book Reteaching p. 12 ● ALEKS ● Kuta Software: Pre-Algebra ● Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	● Have students create a graphic organizer or concept map to help them see the relationships between the different methods for graphing a linear equation. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 5.6:	**College Prep**
Focus and Motivate **Starting Options**	● Introduce Vocabulary ● Warm-Up (Check Skills You'll Need): TE p. 284 #1-8 ● Math Background TE p. 284
Teach **Teaching Options**	● Essential Question: TE p. 284 ● Classroom Activity: Online Active Math ● Daily Notetaking Guide All in One Student Workbook p. 93 ● Examples 1–3: p. 285-286 ● Additional Examples TE p. 287 ● Chapter Resource Book Grab and Go File Chapter 5 p. 6
Checking for Understanding	● Guided Problem Solving All in One Student Workbook 5-6 p. 334 ● Guided Practice Exercises: p. 288 ● Closing the Lesson: Quick Check Problems 1–3 p. 285-286
Practice and Apply **Assigning Homework**	● Average: Day 1: p. 288 #2-20 even ● Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) ● Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	● Study Guide: Chapter Resource Book Reteaching p. 13 ● ALEKS ● Kuta Software: Pre-Algebra ● Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	● Have students match the vocabulary words presented so far in the lesson with their definitions. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 5.7:	**College Prep**
Focus and Motivate **Starting Options**	● Introduce Vocabulary ● Warm-Up (Check Skills You'll Need): TE p. 292 #1-6 ● Math Background TE p. 292
Teach **Teaching Options**	● Essential Question: TE p. 292 ● Classroom Activity: Online Active Math ● Daily Notetaking Guide All in One Student Workbook p. 96 ● Examples 1–2: p. 292-293 ● Additional Examples TE p. 293 ● Chapter Resource Book Grab and Go File Chapter 5 p. 7
Checking for Understanding	● Guided Problem Solving All in One Student Workbook 5-7 p. 336

	• Guided Practice Exercises: p. 292-293 • Closing the Lesson: Quick Check Problems 1–2 p. 292-293
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 294 #2-42 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 14 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Show students a function machine, this will help students understand the difference between domain and range. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols.
Provide Graphic organizers to use in solving problems.
Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook. Allow students to use calculator.
Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 5A: Graphic Organizer p. 337 All-in-one Student Workbook
Vocabulary 5B: Reading Comprehension p. 338 All-in-one Student Workbook
Vocabulary 5C: reading/Writing Math Symbols p. 339 All-in-one Student Workbook
Vocabulary 5D: Visual Vocabulary Practice p. 340 All-in-one Student Workbook
Vocabulary 5E: Vocabulary Check p. 341 All-in-one Student Workbook
Vocabulary 5F: Vocabulary Review p. 343 All –in –one Student Workbook

Summative Assessments:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

Accommodations/Modifications:

Performance Assessments:

Projects, presentations, final writing projects

Accommodations/Modifications:

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra 1 – Chapter 6 Linear Equations and Their Graphs** **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit, you will use equations to study real-world situations. By the end of this unit, you will be able to write linear equations, including those that model real-world data**
Essential Question(s): ● **How can you write linear equations in different forms?** ● **How can you use linear models to solve problems?** ● **How can you model data with a line of best fit?**	**Enduring Understanding(s):** Students will be able to: ● Write equations of lines ● Write an equation of a line using points on the line ● Write linear equations in point-slope form ● Write linear equations in standard form Write equations of parallel and perpendicular lines ● Make scatter plots and write equations to model data

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS:
1. Write linear equations in different forms *[Standard]* 1. Write a function that describes a relationship between two quantities a. Determine an explicit expression, a recursive process, or steps for calculation from a context. 2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). 3. Interpret the parameters in a linear or exponential function in terms of a context. 4. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 5. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* 6. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ 7. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ 8. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★ 9. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. 10. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. **2. Use linear models to solve problems** *[Standard]* 1. Write a function that describes a relationship between two quantities.⋆ a. Determine an explicit expression, a recursive process, or steps for calculation from a context. 2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). 3. Interpret the parameters in a linear or exponential function in terms of a context. 4. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 5. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* 6. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ 7. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★ 8. Calculate and interpret the average rate of change of a function (presented symbolically or as a table over a specified interval. Estimate the rate of change from a graph.★ 9. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.⋆ a. Graph linear and quadratic functions and show intercepts, maxima, and minima. 10. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	**1.MA.9-12.F-BF.1.A** **MA.9-12.F-LE.A.2** **MA.9-12.F-LE.B.1** **MA.9-12.F-IF.B.4-6** **MA.9-12.F-IF.C.7a** **MA.9-12.A-CED.A.2-3** **MA.9-12.S-ID.C.7** **2. MA.9-12.F-BF.A.1.A** **MA.9-12.F-LE.A.2** **MA.9-12.F-LE.B.5** **MA.9-12.A-CED.A.2-3** **MA.9-12.F-IF.B4-6** **MA.9-12.F-IF.C.7a** **MA.9-12.S-ID.C.7**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Studio costs per hour (p.285), gym membership costs (p. 294), BMX racing costs (p. 295), cost of stickers (p. 304), transportation possibilities (p. 313), state flag design (p. 320), linear models of bird populations (p. 326),

Inter-Disciplinary problem solving examples:

Distances in sports (p. 289), total cost (p.295), sports statistics (p. 308), possible combinations of objects (p. 315), analyze growth rates (p. 322), modeling scientific data (p. 329)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:

Chapter 6-1 - What are two ways to find the slope of a line? P. 311.

Chapter 6-2 - How does changing the value of m affect the graph of a line? How does changing the value of b affect the graph of a line? P. 319.

Chapter 6-3 - Have students work in pairs to list facts that they can find out about a real-world situation from reading a graph that models that situation. P. 326.

Chapter 6-4 - Ask: How do you find the x and y intercepts of a linear equation? P. 332.

Chapter 6-5 - Ask students to write a set of data that is linear, and then model the data with an equation. Have them graph the data and the equation. P. 338.

Chapter 6-6 - Ask: Compare the equations of non-vertical and parallel lines. Compare the equations of perpendicular lines. P. 345.

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 6

Section 6.1:

	College Prep
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. 308 #1-10 • Math Background TE p. 308

Teach **Teaching Options**	• Essential Question: TE p. 308 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 98 • Examples 1–5: p. 309-311 • Quick Check Problems 1–5 p. 309-311 • Additional Examples TE p. 311 • Chapter Resource Book Grab and Go File Chapter 6 p. 2
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-1 p. 346 • Guided Practice Exercises: p. 312-313 #1-26 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 312-313 #2-28 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Students will benefit from having a step-by-step template that shows how to write the equation of a line. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 6.2:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 317 #1-6 • Math Background TE p. 317
Teach **Teaching Options**	• Essential Question: TE p. 317 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 101 • Examples 1–6: PE p. 317-319 • Quick Check Problems 1–5 p. 317-318 • Additional Examples TE p. 319 • Chapter Resource Book Grab and Go File Chapter 6 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-2 p. 348 • Guided Practice Exercises: p. 320 #1-62 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 320 #2-32 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	• Using the template, students will see the connection with the new problems *(Reference materials are located in District shared directory, mathematics,*

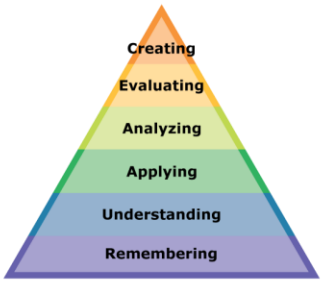
	modifications/accommodations folder, by chapter and section).
Section 6.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 324 #1-7 • Math Background TE p. 324
Teach **Teaching Options**	• Essential Question: TE p. 324 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 104 • Examples 1–2: p. 324-325 • Quick Check Problems 1–2 p. 324-325 • Additional Examples TE p. 325 • Chapter Resource Book Grab and Go File Chapter 6 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-3 p. 350 • Guided Practice Exercises: p. 325-326 #1-10 • Closing the Lesson: TE Quick Check 1-2
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 325-326 #1-10 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 20
Accommodations/Modifications:	• Make handouts of the word problems, so students can highlight or underline the information as they read. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 6.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 330 #1-9 • Math Background TE p. 330
Teach **Teaching Options**	• Essential Question: TE p. 330 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 106 • Examples 1–4: p. 331-332 • Quick Check Problems 1–4 p. 331-332 • Additional Examples TE p. 332 • Chapter Resource Book Grab and Go File Chapter 6 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-4 p. 352 • Guided Practice Exercises: p. 331-332 #1-35 • Closing the Lesson: TE Quick Check 1-7
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 331-332 #1-35 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment)

	• Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Focus on vocabulary for the word "equivalent." • Make a poster for the wall that displays the name, the general equation, and an example for each form of linear equations. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 6.5:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 336 #1-6 • Math Background TE p. 336
Teach **Teaching Options**	• Essential Question: TE p. 336 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 109 • Examples 1–6: 336-338 • Quick Check Problems 1–6: 336-338 • Additional Examples TE p. 338 • Chapter Resource Book Grab and Go File Chapter 6 p. 6
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-5 p. 354 • Guided Practice Exercises: p. 339 #1-53 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 339 #2-52 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 14 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 22
Accommodations/Modifications:	• Create a table to organize the equation of the original line vs. the equation of the line perpendicular. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 6.6:	
	College Prep
Focus and Motivate **Starting Options**	• Vocabulary Introduction • Warm-Up (Check Skills You'll Need): TE p. 343 #1-8 • Math Background TE p. 343
Teach **Teaching Options**	• Essential Question: TE p. 343 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 112 • Examples 1–3: p. 343-344 • Quick Check Problems 1–3 p. 343-344 • Additional Examples TE p. 345

	• Chapter Resource Book Grab and Go File Chapter 6 p. 7
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 6-6 p. 356 • Guided Practice Exercises: p. 346-347 #1-46 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: 346-347 #2-26 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 15 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 23
Accommodations/Modifications:	• Create a table to organize the equation of the original line vs. the equation of the line perpendicular. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols. Provide Graphic organizers to use in solving problems. Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook. Allow students to use calculator.
Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 6A: Graphic Organizer p. 360 All-in-one Student Workbook
Vocabulary 6B: Reading Comprehension p. 361 All-in-one Student Workbook
Vocabulary 6C: reading/Writing Math Symbols p. 362 All-in-one Student Workbook
Vocabulary 6D: Visual Vocabulary Practice p. 363 All-in-one Student Workbook

Vocabulary 6E: Vocabulary Check p. 364 All-in-one Student Workbook **Vocabulary 6F: Vocabulary Review p. 367 All –in –one Student Workbook** *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

<u>Summative Assessments</u>:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra 1 – Chapter 7 Systems of Equations and Inequalities** **Grade Level(s): 9-12**	**Unit Summary**: **In this unit, students will use properties of equality to solve equations in one variable using properties of numbers and operations. They will also use properties of equality and the distributive property to solve equations with variables on both sides. Students will write ratios and solve proportions and rewrite equations in function form and solve literal equations for a given variable.**
Essential Question(s): ● **How do I solve a linear system using graphing?** ● **How do I solve a linear system using algebra?** ● **How do I solve a system of linear inequalities?**	**Enduring Understanding(s):** Students will be able to: ● Graph and solve systems of linear equations ● Solve systems of linear equations by substitution ● Solve systems of linear equations by elimination (addition) ● Solve linear systems by multiplying first ● Identify the number of solutions of a linear system ● Solve systems of linear inequalities in two variables

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS:**
1. Solve systems of linear equations by graphing [Standard] - Solve SYSTEMs of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. [Standard] - Solve a simple SYSTEM consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. [Standard] - Graph linear and quadratic functions and show intercepts, maxima, and minima. **2. Solve systems of equations using algebra** [Standard] - Solve SYSTEMs of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. [Standard] - Solve a simple SYSTEM consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. **3. Solve systems of linear inequalities** [Standard] - Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a SYSTEM of linear INEQUALITIES in two variables as the intersection of the corresponding half-planes. Standard] - Represent constraints by equations or INEQUALITIES, and by SYSTEMs of equations and/or INEQUALITIES, and interpret solutions as viable or non-viable options in a modeling context.	1. MA.9-12.A-REI.6,7; F-IF.7.a 2. MA.9-12.A-REI.6,7 3. MA.9-12.A-REI.12; MA.9-12.A-CED.3

Inter-Disciplinary Connections:

Real-World problem solving examples:
Finding average speed of a runner (p. 137), crafts (p. 139), scuba diving (p. 143), car sales (p. 155), shopping (p. 183)
Inter-Disciplinary problem solving examples:
Bird migration (p. 139 and p. 150) box jellyfish (p. 139), dance lessons (p. 145), advertising (p. 145), using map scales (p. 170), using surveys to answer percent problems (p. 178), temperature equations (p. 186)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:

Chapter 7-1 - Ask students to write three systems of equations: a system with one solution, a system with no solution, and a system with infinitely many solutions. P. 376.

Chapter 7-2 - Ask: Why it is sometimes easier to solve equations using substitution rather than graphing? P. 383.

Chapter 7-3 - Ask students to explain when it is best to solve a system by using elimination, and when it is best to use substitution. P. 390.

Chapter 7-4 - Ask students to tell what they found most difficult about writing a system of equations to solve a word problem. 398.

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 7

Section 7.1:

	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 374 #1-7 • Math Background TE p. 374
Teach **Teaching Options**	• Essential Question: TE p. 374 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 119 • Examples 1–5: p. 374-376 • Quick Check Problems 1–5 p. 374-375 • Additional Examples TE p. 375 • Chapter Resource Book Grab and Go File Chapter 7 p. 2
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-1 p. 370 • Guided Practice Exercises: p. 377 #1-22 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 377 #1-22 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 1 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 14
Accommodations/Modifications:	Provide graphs with the problems directly on the graph, leaving room to work.*(Chapter 7-1)* *(Reference materials are located in District shared directory, mathematics,*

	modifications/accommodations folder, by chapter and section).
Section 7.2:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 382 #1-9 • Math Background TE p. 382
Teach **Teaching Options**	• Essential Question: TE p. 382 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 122 • Examples 1–3: p. 382-383 • Quick Check Problems 1–3 p. 382-383 • Additional Examples TE p. 383 • Chapter Resource Book Grab and Go File Chapter 7 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-2 p. 372 • Guided Practice Exercises: p. 384-385 #1-31 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 384-385 #2-30 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 9 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 15
Accommodations/Modifications:	Have students create a problem-solving plan, listing in order the steps they will take to solve the system. *(Chapter 7-2)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 7.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 387 #1-9 • Math Background TE p. 387
Teach **Teaching Options**	• Essential Question: TE p. 387 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 124 • Examples 1–5: p. 387-390 • Quick Check Problems 1–5 p. 387-390 • Additional Examples TE p. 388 • Chapter Resource Book Grab and Go File Chapter 7 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-3 p. 374 • Guided Practice Exercises: p. 390-391 #1-28 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 390-391 #2-28 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment)

	• Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 16
Accommodations/Modifications:	Set up distance, rate, and time problems in a table. Provide table for students to use. *(Chapter 7-3)* Have students use tiles or paper squares to practice adding and subtracting equations. *(Chapter 7-3)* *ce materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 7.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 396 #1-9 • Math Background TE p. 396
Teach **Teaching Options**	• Essential Question: TE p. 396 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 127 • Examples 1–3: p. 396-398 • Quick Check Problems 1–3 p. 396-398 • Additional Examples TE p. 398 • Chapter Resource Book Grab and Go File Chapter 7 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-4 p. 376 • Guided Practice Exercises: p. 399-400 #1-9 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 399-400 #1-9 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 17
Accommodations/Modifications:	Have students draft a set of guidelines for choosing the most appropriate strategy (graphing, substitution, elimination) for solving a system of linear equations. Include an example strategy. *(Chapter 7-4)* Have students make a list of multiples of the coefficients of each variable. *(Chapter 7-4)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section.)*
Section 7.5:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 404 #1-6 • Math Background TE p. 404
Teach **Teaching Options**	• Essential Question: TE p. 404 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 130 • Examples 1–3: p.405-406

	• Quick Check Problems 1–3 p. 405-406 • Additional Examples TE p. 406 • Chapter Resource Book Grab and Go File Chapter 7 p. 6
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-5 p. 378 • Guided Practice Exercises: p. 407#1-24 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 407 #2-24 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	Use a graphic organizer to help visual learners organize the information. (*Chapter 7-5)* *ce materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section.)*
Section 7.6:	**College Prep**
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 411 #1-6 • Math Background TE p. 411
Teach **Teaching Options**	• Essential Question: TE p. 411 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 132 • Examples 1–3: . 411-4`1 • Quick Check Problems 1–3 p. 411-412 • Additional Examples TE p. 413 • Chapter Resource Book Grab and Go File Chapter 7 p. 7
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 7-6 p. 380 • Guided Practice Exercises: p. 414-415 #1-21 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: 414-415 #2-20 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	Have students provide a verbal understanding of the solution set after showing them the graph. *(Chapter 7-6)* Have students create a list of steps in their notebook to keep organized. *(Chapter 7-6)* *ce materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.

Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols.
Provide Graphic organizers to use in solving problems.
Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook.
Allow students to use calculator.
Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 7A: Graphic Organizer p. 381 All-in-one Student Workbook
Vocabulary 7B: Reading Comprehension p. 382 All-in-one Student Workbook
Vocabulary 7C: reading/Writing Math Symbols p. 383 All-in-one Student Workbook
Vocabulary 7D: Visual Vocabulary Practice p. 384 All-in-one Student Workbook
Vocabulary 7E: Vocabulary Check p. 385 All-in-one Student Workbook
Vocabulary 7F: Vocabulary Review p. 387 All –in –one Student Workbook

(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).

Summative Assessments:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

Performance Assessments:

Projects, display of student work

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra 1 – Chapter 8 Exponents and Exponential Functions** **Grade Level(s): 9-12**	**Unit Summary**: **In this unit, students will write, graph and solve one-step and multi-step inequalities using addition, subtraction, multiplication and division. Students will solve and graph compound inequalities using *and* and *or* and will solve and graph absolute value equations and inequalities. Students will also graph linear inequalities in two variables.**
Essential Question(s): • **How do you apply properties of inequality?** • **How do you use statements with *and* or *or*?** • **How do you graph inequalities**	**Enduring Understanding(s):** Students will be able to: • Solve and graph one-step inequalities using algebra. • Solve and graph two-step inequalities. • Solve and graph multi-step inequalities. • Solve inequalities with variables on both sides of the inequality. • Solve compound inequalities. • Graph linear inequalities in two variables.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS
1. Apply properties of exponents to simplify expressions *[Standard]* 1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, 32 × 3–5 = 3–3 = 1/33 = 1/27.* 2. Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. 3.. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15t *can be rewritten as* (1.151/12)12*t* ≈ 1.01212t *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* 1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	1. MA.8.EE.A.1 MA.9-12.A-SSE.A.1a MA.9-12.A-SSE.B.3c MA.9-12.A-APR.A.1 2. MA.8.EE.A.3-4
2. Work with numbers in scientific notation *[Standard]* 3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.* 4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and	

scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	

Inter-Disciplinary Connections:

Real-World problem solving examples:

Bee Population (p. 491), Sun luminosity (p. 498), Order of magnitude Moth Larva (p. 505), Blood flow (p. 514)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:
Chapter 8-1 – Ask students to explain the meaning of a zero exponent and the meaning of a negative exponent. (p. 432); Ask what the first step is for simplifying an exponential expression that contains negative exponents (p. 432)
Chapter 8-2 - Explaining when and how to use the product of powers property (p. 492).
Chapter 8-3 - Explain when and how to use the quotients of powers property (p. 498).
Chapter 8-4 - Explain why a zero base with a negative exponent is undefined (p. 506).
Chapter 8-5 - Explaining an estimation for scientific notation (p. 515).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 8

Section 8.1:

	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 437 #1-7 • Math Background TE p. 437
Teach **Teaching Options**	• Essential Question: TE p. 437 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 135 • Examples 1–4: p. 436-437 • Quick Check Problems 1–4 p. 436-437

	• Additional Examples TE p. 437 • Chapter Resource Book Grab and Go File Chapter 8 p. 2
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-1 p. 390 • Guided Practice Exercises: p. 438-439 #1-40 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 438-439 #2-40 (even) • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Review vocabulary and concepts such as factors, the meaning of exponents, and the correct order of operations before starting this lesson. (*Chapter 8.1)* • Use highlighters to identify like bases. *(Chapter 8.1)* *eference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.2:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 436 #1-7 • Math Background TE p. 436
Teach **Teaching Options**	• Essential Question: TE p. 436 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 137 • Examples 1–4: p. 436-438 • Quick Check Problems 1–4 p. 436-438 • Additional Examples TE p. 438 • Chapter Resource Book Grab and Go File Chapter 8 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-2 p. 392 • Guided Practice Exercises: p. 438-439 #1-40 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 438-439 #2-40 (even) • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	• Encourage students to expand difficult problems before they start to show all the factors. Give students the steps to a problem written on separate pieces of paper, and have them rearrange the steps into the correct order. *(Chapter 8.2)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 8.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 447 #1-8 • Math Background TE p. 447
Teach **Teaching Options**	• Essential Question: TE p. 447 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 140 • Examples 1–4: p. 441-443 • Quick Check Problems 1–4 p. 441-443 • Additional Examples TE p. 443 • Chapter Resource Book Grab and Go File Chapter 8 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-3 p. 394 • Guided Practice Exercises: p. 443-444 #1-53 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 443-444 #2-50 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 20
Accommodations/Modifications:	• Pair students to write similar problems and solutions with steps, and have them challenge other pairs of student to identify the properties used. *(Chapter 8.3)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 8.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 447 #1-8 • Math Background TE p. 447
Teach **Teaching Options**	• Essential Question: TE p. 447 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 143 • Examples 1–5: p. 447-449 • Quick Check Problems 1–5 p. 447-449 • Additional Examples TE p. 449 • Chapter Resource Book Grab and Go File Chapter 8 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-4 p. 396 • Guided Practice Exercises: p. 449-450 #1-50 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 449-450 #2-50 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra

Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Have students memorize this template to help them convert between a positive number written in standard form and a positive number written in scientific notation. *(Chapter 8-4)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.5:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 453 #1-12 • Math Background TE p. 453
Teach **Teaching Options**	• Essential Question: TE p. 453 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 145 • Examples 1–5: p. 453-455 • Quick Check Problems 1–5 p. 453-455 • Additional Examples TE p. 455 • Chapter Resource Book Grab and Go File Chapter 8 p. 6
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-5 p. 398 • Guided Practice Exercises: p. 456 #1-49 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 456 #2-49 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 14 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 22
Accommodations/Modifications:	*ce materials are located in District shared directory, mathematics,* *modifications/accommodations folder, by chapter and section).*

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.

Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols.
Provide Graphic organizers to use in solving problems.
Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook.
Allow students to use calculator.
Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 8A: Graphic Organizer p. 405 All-in-one Student Workbook
Vocabulary 8B: Reading Comprehension p. 406 All-in-one Student Workbook
Vocabulary 8C: reading/Writing Math Symbols p. 407 All-in-one Student Workbook
Vocabulary 8D: Visual Vocabulary Practice p. 408 All-in-one Student Workbook
Vocabulary 8E: Vocabulary Check p. 409 All-in-one Student Workbook
Vocabulary 8F: Vocabulary Review p. 411 All –in –one Student Workbook

(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).

Summative Assessments:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

Performance Assessments:

Projects, display of student work

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title:	Unit Summary:
Algebra 1 – Chapter 8 Exponents and Exponential Functions	**In this unit, students will write, graph and solve one-step and multi-step inequalities using addition, subtraction, multiplication and division. Students will solve and graph compound inequalities using *and* and *or* and will solve and graph absolute value equations and inequalities. Students will also graph linear inequalities in two**

Grade Level(s): 9-12	**variables.**
Essential Question(s): • **How do you apply properties of inequality?** • **How do you use statements with *and* or *or*?** • **How do you graph inequalities**	**Enduring Understanding(s):** Students will be able to: • Solve and graph one-step inequalities using algebra. • Solve and graph two-step inequalities. • Solve and graph multi-step inequalities. • Solve inequalities with variables on both sides of the inequality. • Solve compound inequalities. • Graph linear inequalities in two variables.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	JSLS
1. Apply properties of exponents to simplify expressions *[Standard]* 1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, 32 × 3–5 = 3–3 = 1/33 = 1/27.* 2. Interpret expressions that represent a quantity in terms of its context.★ a. Interpret parts of an expression, such as terms, factors, and coefficients. 3.. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★ c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15t *can be rewritten as* (1.151/12)12*t* ≈ 1.01212t *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* 1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	1. MA.8.EE.A.1 MA.9-12.A-SSE.A.1a MA.9-12.A-SSE.B.3c MA.9-12.A-APR.A.1
2. Work with numbers in scientific notation *[Standard]* 3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.* 4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	2. MA.8.EE.A.3-4

Inter-Disciplinary Connections:

Real-World problem solving examples:

Bee Population (p. 491), Sun luminosity (p. 498), Order of magnitude Moth Larva (p. 505), Blood flow (p. 514)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:

Chapter 8-1 – Ask students to explain the meaning of a zero exponent and the meaning of a negative exponent. (p. 432); Ask what the first step is for simplifying an exponential expression that contains negative exponents (p. 432)
Chapter 8-2 - Explaining when and how to use the product of powers property (p. 492).
Chapter 8-3 - Explain when and how to use the quotients of powers property (p. 498).
Chapter 8-4 - Explain why a zero base with a negative exponent is undefined (p. 506).
Chapter 8-5 - Explaining an estimation for scientific notation (p. 515).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 8

Section 8.1:

	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 437 #1-7 • Math Background TE p. 437
Teach **Teaching Options**	• Essential Question: TE p. 437 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 135 • Examples 1–4: p. 436-437 • Quick Check Problems 1–4 p. 436-437 • Additional Examples TE p. 437 • Chapter Resource Book Grab and Go File Chapter 8 p. 2
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-1 p. 390 • Guided Practice Exercises: p. 438-439 #1-40 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 438-439 #2-40 (even) • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Review vocabulary and concepts such as factors, the meaning of exponents, and the correct order of operations before starting this lesson. (*Chapter 8.1)*

	• Use highlighters to identify like bases. *(Chapter 8.1)* *eference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.2:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 436 #1-7 • Math Background TE p. 436
Teach **Teaching Options**	• Essential Question: TE p. 436 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 137 • Examples 1–4: p. 436-438 • Quick Check Problems 1–4 p. 436-438 • Additional Examples TE p. 438 • Chapter Resource Book Grab and Go File Chapter 8 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-2 p. 392 • Guided Practice Exercises: p. 438-439 #1-40 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 438-439 #2-40 (even) • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	• Encourage students to expand difficult problems before they start to show all the factors. Give students the steps to a problem written on separate pieces of paper, and have them rearrange the steps into the correct order. *(Chapter 8.2)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 447 #1-8 • Math Background TE p. 447
Teach **Teaching Options**	• Essential Question: TE p. 447 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 140 • Examples 1–4: p. 441-443 • Quick Check Problems 1–4 p. 441-443 • Additional Examples TE p. 443 • Chapter Resource Book Grab and Go File Chapter 8 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-3 p. 394 • Guided Practice Exercises: p. 443-444 #1-53 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply	• Average: Day 1: p. 443-444 #2-50 even

Assigning Homework	• Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 20
Accommodations/Modifications:	• Pair students to write similar problems and solutions with steps, and have them challenge other pairs of student to identify the properties used. *(Chapter 8.3)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 447 #1-8 • Math Background TE p. 447
Teach **Teaching Options**	• Essential Question: TE p. 447 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 143 • Examples 1–5: p. 447-449 • Quick Check Problems 1–5 p. 447-449 • Additional Examples TE p. 449 • Chapter Resource Book Grab and Go File Chapter 8 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-4 p. 396 • Guided Practice Exercises: p. 449-450 #1-50 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 449-450 #2-50 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Have students memorize this template to help them convert between a positive number written in standard form and a positive number written in scientific notation. *(Chapter 8-4)* *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 8.5:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 453 #1-12 • Math Background TE p. 453
Teach **Teaching Options**	• Essential Question: TE p. 453 • Classroom Activity: Online Active Math • Daily Notetaking Guide All in One Student Workbook p. 145

	• Examples 1–5: p. 453-455 • Quick Check Problems 1–5 p. 453-455 • Additional Examples TE p. 455 • Chapter Resource Book Grab and Go File Chapter 8 p. 6
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 8-5 p. 398 • Guided Practice Exercises: p. 456 #1-49 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 456 #2-49 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 14 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 22
Accommodations/Modifications:	*ce materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.

Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols.
Provide Graphic organizers to use in solving problems.
Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook.
Allow students to use calculator.

Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 8A: Graphic Organizer p. 405 All-in-one Student Workbook
Vocabulary 8B: Reading Comprehension p. 406 All-in-one Student Workbook
Vocabulary 8C: reading/Writing Math Symbols p. 407 All-in-one Student Workbook
Vocabulary 8D: Visual Vocabulary Practice p. 408 All-in-one Student Workbook
Vocabulary 8E: Vocabulary Check p. 409 All-in-one Student Workbook
Vocabulary 8F: Vocabulary Review p. 411 All –in –one Student Workbook

(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).

Summative Assessments:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

Performance Assessments:

Projects, display of student work

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra I – Chapter 9 Polynomials and Factoring** **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit you will be applying mathematical properties to polynomials and factoring polynomials. By the end of the unit, you will be able to add, subtract, and multiply polynomials, as well as, factor polynomials.**
Essential Question(s): **Essential Question(s):** ● **How do you apply mathematical operations to polynomials?** ● **How do you factor polynomials**	**Enduring Understanding(s):** Students will be able to: ● Add and subtract polynomials ● Multiply a polynomial and monomial ● Multiply binomials ● Multiply special cases ● Factor trinomials ● Factor special cases ● Factor by grouping

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS:**
1. Use Mathematical Operations on Polynomials [Standard] - Understand that polynomials form a system analogous to the integers, namely, they are closed	**1. MA.9-12.A-APR.A.1** **MA.9-12.A-APR.C.4**

under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials [Standard] - Prove polynomial identities and use them to describe numerical relationships. [Standard] - Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [Standard] - Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. [Standard] - Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	**MA.9-12.F-IF.C.8.A**
2. Factoring Polynomials *[Standard] - Create equations and inequalities in one variable and use them to solve problems.* *[Standard] - Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.* [Standard] - *Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context* *[Standard] Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*	**2. MA.9-12.A-CED.A.1** **MA.9-12.A-REI.B.4.B** **MA.9-12.F-IF.C.8.A** **MA.9-12.A-SSE.B.3**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Model the number of men and women enrolled in college (p 498), Find the total number of pounds of fresh vegetable consumed (p 509), Determine the color coat of cattle (p 516)

Inter-Disciplinary problem solving examples:

Financial Planning (p 509), Punnett Square (p 513)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:

Chapter 9-1 -Find other word that begin with mono, bi, tri, or poly. P. 498

Chapter 9-2 -Ask students how to find the GCF of a polynomial. P. 501.

Chapter 9-3 - Ask students what the letters in FOIL represent. P. 507.

Chapter 9-4 - Ask students to explain how to compute the xy term of the product of a difference of two squares. P. 517.

Chapter 9-5 - Ask students to explain how to determine what numbers are used in the binomial factors when factoring expressions? P. 520.

Chapter 9-6 -Ask students what is the first thing you should look for when factoring a trinomial. P. 525

Chapter 9-7 - Ask students to name and give examples of two types of special cases they learned. P. 530

Chapter 9-8 - Ask students what is the first thing to do when factoring. P. 536

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 9

Section 9.1:

	College Prep
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. 494 #1-6 • Math Background TE p. 494
Teach **Teaching Options**	• Essential Question: TE p. 494 • Classroom Activity: Online Active Math • Examples 1–4: p. 495-496 • Quick Check Problems 1–4 p. 495-496 • Additional Examples TE p. 961
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-1 p. 494 • Guided Practice Exercises: p. 497 #1-37 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 497 #2-38 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Students will benefit from having graph paper to set up their problems. • *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 9.2:

	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 500 #1-9 • Math Background TE p. 500
Teach **Teaching Options**	• Essential Question: TE p. 500 • Classroom Activity: Online Active Math • Examples 1–3: TE p. 500-501

	• Quick Check Problems 1–3 p. 500-501 • Additional Examples TE p. 501 • Chapter Resource Book Grab and Go File Chapter 9 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-2 p. 500 • Guided Practice Exercises: p. 501-502 #1-24 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 501-502 #2-24 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	• Use post it notes to assist students with moving around parts of the polynomials *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 9.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 505 #1-9 • Math Background TE p. 505
Teach **Teaching Options**	• Essential Question: TE p. 505 • Classroom Activity: Online Active Math • Examples 1–4: p. 505-507 • Quick Check Problems 1–4 p. 505-507 • Additional Examples TE p. 507 • Chapter Resource Book Grab and Go File Chapter 9 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-3 p. 505 • Guided Practice Exercises: p. 507-508 #1-29 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 507-508 #2-24 Even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 20
Accommodations/Modifications:	• Make handouts of the word problems, so students can highlight or underline the information as they read. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 9.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 512 #1-10 • Math Background TE p. 512
Teach **Teaching Options**	• Essential Question: TE p. 512 • Classroom Activity: Online Active Math • Examples 1–5: p. 513-515 • Quick Check Problems 1–5 p. 513-515 • Additional Examples TE p. 514 • Chapter Resource Book Grab and Go File Chapter 9 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-4 p. 514 • Guided Practice Exercises: p. 515 #1-25 • Closing the Lesson: TE Quick Check 1-10
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 515 #1-25 • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Provide students with the rules for special cases *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 9.5:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 519 #1-8 • Math Background TE p. 519
Teach **Teaching Options**	• Essential Question: TE p. 519 • Classroom Activity: Online Active Math • Examples 1–4: 519-521 • Quick Check Problems 1–4: 519-521 • Additional Examples TE p. 520 • Chapter Resource Book Grab and Go File Chapter 9 p. 6
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-5 p. 523 • Guided Practice Exercises: p. 521-522 #1-38 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 521-523 #2-38 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 14 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 22
Accommodations/Modifications:	• Create a table to organize the equation of the original line vs. the

	equation of the line perpendicular. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 9.6:	
	College Prep
Focus and Motivate **Starting Options**	• Vocabulary Introduction • Warm-Up (Check Skills You'll Need): TE p. 524 #1-6 • Math Background TE p. 524
Teach **Teaching Options**	• Essential Question: TE p. 524 • Classroom Activity: Online Active Math • Examples 1–3: p. 524-525 • Quick Check Problems 1–3 p. 524-525 • Additional Examples TE p. 525 • Chapter Resource Book Grab and Go File Chapter 9 p. 7
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-6 p. 526 • Guided Practice Exercises: p. 525-526 #1-27 • Closing the Lesson: TE Quick Check 1-3
Practice and Apply **Assigning Homework**	• Average: Day 1: 525-526 #2-26 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 15 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 23
Accommodations/Modifications:	• Provide the steps for factoring trinomials *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 9.7:	
	College Prep
Focus and Motivate **Starting Options**	• Vocabulary Introduction • Warm-Up (Check Skills You'll Need): TE p. 528 #1-7 • Math Background TE p. 528
Teach **Teaching Options**	• Essential Question: TE p. 528 • Classroom Activity: Online Active Math • Examples 1–5: p. 529-530 • Quick Check Problems 1–5 p. 529-530 • Additional Examples TE p. 529 • Chapter Resource Book Grab and Go File Chapter 9 p. 8
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-7 p. 529 • Guided Practice Exercises: p. 531 #1-26 • Closing the Lesson: TE Quick Check 1-5
Practice and Apply **Assigning Homework**	• Average: Day 1: 531 #2-36 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment)

	• Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 15 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 23
Accommodations/Modifications:	• Provide the steps for factoring trinomials *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

Section 9.8:	
	College Prep
Focus and Motivate **Starting Options**	• Vocabulary Introduction • Warm-Up (Check Skills You'll Need): TE p. 534 #1-8 • Math Background TE p. 534
Teach **Teaching Options**	• Essential Question: TE p. 534 • Classroom Activity: Online Active Math • Examples 1–4: p. 534-536 • Quick Check Problems 1-4 p. 534-536 • Additional Examples TE p. 536 • Chapter Resource Book Grab and Go File Chapter 9 p. 9
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-8 p. 533 • Guided Practice Exercises: p. 537 #1-27 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: 537 #2-26 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 15 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 23
Accommodations/Modifications:	• Provide the steps for factoring trinomials *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.

Formative Assessments:

The effectiveness of the instructional program will be based on teacher observations, students doing quality of work together, questioning strategies, self and peer assessment, student record-keeping, quizzes, essays, journal writing, performance tasks, diagnostic tests, homework, and projects.

Accommodations/Modifications:

Use manipulatives to build patterns or represent symbols.
Provide Graphic organizers to use in solving problems.
Provide guided notes/handouts.
Provide visual glossaries, blank number lines for use with positive and negative numbers.
Break problems into smaller pieces.
Have students keep and turn in a notebook.
Allow students to use calculator.
Review needed skills prior to the lesson.
Provide checklists for solving problems.
Vocabulary 9A: Graphic Organizer p. 405 All-in-one Student Workbook
Vocabulary 9B: Reading Comprehension p. 406 All-in-one Student Workbook
Vocabulary 9C: reading/Writing Math Symbols p. 407 All-in-one Student Workbook
Vocabulary 9D: Visual Vocabulary Practice p. 408 All-in-one Student Workbook
Vocabulary 9E: Vocabulary Check p. 409 All-in-one Student Workbook
Vocabulary 9F: Vocabulary Review p. 411 All –in –one Student Workbook

(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).

Summative Assessments:

Periodic benchmark tests, chapter tests, state assessments, PSATs, End of Course tests, and SATs

Performance Assessments:

Projects, display of student work

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: **Algebra I – Chapter 11 Radical Expressions and Equations**	**Unit Summary**: **In this unit you will be simplifying expressions containing radicals and solving radical equations. By the end of the unit you will be able simplify radical expressions and solve radical equations.**
Grade Level(s): **9-12**	

Essential Question(s):	Enduring Understanding(s):
Essential Question(s): ● **How do you simplify expressions containing radicals?** ● **How do you solve radical equations?** ● **How do you graph square root functions?**	Students will be able to: ● Simplify radicals involving products ● Simplify radicals involving quotients ● Simplify sums and differences of radicals ● Simplify products and quotients of radicals ● Solve Equations containing radicals ● Identify extraneous solutions ● Graph square root functions

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS:
1. Simplify radical expressions [Standard] - Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise	**1. MA.9-12.A-REI.A.2**
2. Solving Radical Equations *[Standard] - Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise*	**2. MA.9-12.A-REI.A.2**
3. Graphing Square Root Functions *[Standard] - Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.*	**3. MA.9-12.F-IF.C.7.C**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Estimate the distance to the horizon (p 617), Use the golden ratio to find the width of a painting (p 624), Using the formula for velocity, calculate the speed in the roller coaster loop (p 630), using a formula, police can find the speed of car when it leaves a skid mark (p 639)

Inter-Disciplinary problem solving examples:

Calculate the period a pendulum swings (p 621), Calculate interest (p 626), Find the radius of an orbit (p 633), Flow rate of water for firefighters (p 641)

Students will engage with the following text:

Pearson, Algebra 1, 2009, by Prentice Hall Mathematics Publishing

Students will write:

Writing/Open Ended questions:
Chapter 11-1 -Ask students to summarize how to simplify a radical. P. 618
Chapter 11-2 -Ask students to summarize how to add and subtract radicals. P. 624.
Chapter 11-3 - Ask students: what is a radical equation? How do you solve a radical equations? P. 631.
Chapter 11-4 - Explain how to graph a square root function. P. 639

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom activities. Investigating algebra activities, modeling examples, using real-life application, using note-taking strategies, and using SMARTBoard technologies will all be explored. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and extra examples of problem solving. In addition, students will use ALEKS to individualize the lessons.

Suggested warm-up activities, instructional strategies/activities, and assignments:

CHAPTER 11

Section 11.1:

	College Prep
Focus and Motivate **Starting Options**	• Introduce Vocabulary • Warm-Up (Check Skills You'll Need): TE p. 616 #1-8 • Math Background TE p. 616
Teach **Teaching Options**	• Essential Question: TE p. 616 • Classroom Activity: Online Active Math • Examples 1–6: p. 616-619 • Quick Check Problems 1–6 p. 616-619 • Additional Examples TE p. 618
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 11-1 p.619 • Guided Practice Exercises: p. 619-620 #1-51 • Closing the Lesson: TE Quick Check 1-6
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 619-620 #2-50 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 10 • ALEKS • Kuta Software: Pre-Algebra

	• Enrichment: Chapter Resource Book p. 18
Accommodations/Modifications:	• Provide a list of perfect squares. • *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 11.2:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 622 #1-7 • Math Background TE p. 622
Teach **Teaching Options**	• Essential Question: TE p. 622 • Classroom Activity: Online Active Math • Examples 1–6: TE p. 622-624 • Quick Check Problems 1–6 p. 622-624 • Additional Examples TE p. 624 • Chapter Resource Book Grab and Go File Chapter 11 p. 3
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 9-2 p. 626 • Guided Practice Exercises: p. 625 #1-36 • Closing the Lesson: TE Quick Check 1-6
Practice and Apply **Assigning Homework**	• Average: Day 1: p. 625 #2-36 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 11 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 19
Accommodations/Modifications:	• Give students factor trees to help break down radicand *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 11.3:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 629 #1-6 • Math Background TE p. 629
Teach **Teaching Options**	• Essential Question: TE p. 629 • Classroom Activity: Online Active Math • Examples 1–5: p. 629-631 • Quick Check Problems 1–5 p. 629-631 • Additional Examples TE p. 631 • Chapter Resource Book Grab and Go File Chapter 11 p. 4
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 11-3 p.636 • Guided Practice Exercises: p.632 #1-20 • Closing the Lesson: TE Quick Check 1-5

Practice and Apply **Assigning Homework**	• Average: Day 1: p. 632 #2-20 Even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 12 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 20
Accommodations/Modifications:	• Make handouts of the word problems, so students can highlight or underline the information as they read. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*
Section 11.4:	
	College Prep
Focus and Motivate **Starting Options**	• Warm-Up (Check Skills You'll Need): TE p. 638 #1-5 • Math Background TE p. 638
Teach **Teaching Options**	• Essential Question: TE p. 638 • Classroom Activity: Online Active Math • Examples 1–4: p. 638-639 • Quick Check Problems 1–4 p. 638-639 • Additional Examples TE p. 639 • Chapter Resource Book Grab and Go File Chapter 11 p. 5
Checking for Understanding	• Guided Problem Solving All in One Student Workbook 11-4 p. 640 • Guided Practice Exercises: p. 640 #1-29 • Closing the Lesson: TE Quick Check 1-4
Practice and Apply **Assigning Homework**	• Average: Day 1: p.640 #1-29 even • Chapter Resource Book L1 (Adapted Practice), L2 (Reteaching), L3 (Practice, Guided Problem Solving), L4 (Enrichment) • Kuta Software: Pre-Algebra
Assess and Reteach **Differentiating Instruction**	• Study Guide: Chapter Resource Book Reteaching p. 13 • ALEKS • Kuta Software: Pre-Algebra • Enrichment: Chapter Resource Book p. 21
Accommodations/Modifications:	• Provide students with graph paper. *(Reference materials are located in District shared directory, mathematics, modifications/accommodations folder, by chapter and section).*

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