

Algebra I B

Unit 1 – Review Chapters 1 - 6

Time: 3 weeks

Curriculum Objectives: 1, 2, 3, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Translate verbal expressions into mathematical expressions• Recognize and use the various properties of algebra• Review and practice operations with rational numbers• Solve multiple-step equations and inequalities• Review and practice simplifying polynomials• Review and practice operations with polynomials• Write and solve equations for verbal problems	<ul style="list-style-type: none">• Illustrate problems on the marker board• Do textbook exercises in class• Work with partners on problem-solving activities• Have students work and explain problems on the marker board	<ul style="list-style-type: none">• Textbook: Merrill <i>Algebra I Applications and Connections</i>• Practice worksheets from Merrill Algebra I workbook• Teacher-generated worksheet• Posters on algebra properties and order of operations	<ul style="list-style-type: none">• Four quizzes• Completion of homework• Selected graded homework• Participation in class activities• Answering questions during class work• Two tests

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Unit 2 – Factoring (Chapter 7)

Time: 6 weeks

Curriculum Objectives: 3, 4, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Review prime factorization of integers • Find the greatest common factor for a set of monomials • Use the GCF and the distributive property to factor polynomials • Use grouping techniques to factor polynomials with four terms • Factor quadratic trinomials • Identify and factor polynomials that are the differences of squares • Identify and factor perfect square trinomials • Identify and use various methods of factoring • Solve equations by using various factoring methods and applying the zero product property 	<ul style="list-style-type: none"> • Illustrate problems on the marker board • Do textbook exercises in class • Use puzzle worksheets to practice factoring • Work with partners on problem-solving activities • Introduce Bridge Method for factoring trinomials • Develop chart to use as a tool for identifying types of factoring • Have students work and explain problems on the marker board 	<ul style="list-style-type: none"> • Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u> • Practice worksheets from Merrill Algebra I workbook • “<i>Real World</i>” transparencies 13 and 14 • Teacher-generated worksheet • Worksheet packet from <u><i>Algebra With Pizzazz</i></u> • Posters on factoring methods and FOIL • Calculators 	<ul style="list-style-type: none"> • Four quizzes • Completion of homework • Selected graded homework • Packet of puzzle worksheets • Participation in class activities • Answering questions during class work • Three tests

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Unit 3 – Rational Expressions (Chapter 8)

Time: 4 weeks

Curriculum Objectives: 1, 2, 4, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Apply and practice four arithmetic operations with rational numbers• Simplify rational expressions using factoring• Multiply and divide rational expressions using factoring to simplify• Extend division process to polynomials• Add and subtract rational expressions with like denominators• Add and subtract rational expressions with unlike denominators• Solve rational equations• Solve formulas for a specified variable• Use formulas that involve rational expressions	<ul style="list-style-type: none">• Illustrate problems on the marker board• Do textbook exercises in class• Work with partners on problem-solving activities• Have students work and explain problems on the marker board	<ul style="list-style-type: none">• Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u>• Practice worksheets from Merrill Algebra I workbook• Teacher-generated worksheet• Posters on fractions• Calculators	<ul style="list-style-type: none">• Four quizzes• Completion of homework• Selected graded homework• Participation in class activities• Answering questions during class work• Mid-chapter test• Final test

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Unit 4 – Functions and Graphs (Chapter 9 Review)

Time: 2 weeks

Curriculum Objectives: 1, 5, and 8

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Graph ordered pairs on a coordinate plane • Identify the domain, range, and inverse of a relation • Represent relations as sets of ordered pairs, mappings, and graphs • Solve linear equations for a specified variable and a given domain • Graph linear equations on a coordinate plane • Determine when a given relation is a function • Calculate values for a given function • Graph inequalities on a coordinate plane • Interpret problems by using bar graphs and line graphs 	<ul style="list-style-type: none"> • Use overhead projector to demonstrate graphing • Illustrate problems on the marker board • Do textbook exercises in class • Work with partners on problem-solving activities • Have students work and explain problems on the marker board • Use graphing calculators to graph linear equations • Five-Minute Check covering previous topics 	<ul style="list-style-type: none"> • Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u> • Overhead projector and graphing transparencies • Map of local area • Graph paper • Rulers • Practice worksheets from Merrill Algebra I workbook • Teacher-generated worksheet • Posters on graphing showing bar and line graphs • Calculators 	<ul style="list-style-type: none"> • Two quizzes • Completion of homework • Selected graded homework • Participation in class activities • Answering questions during class work • Five-Minute Checks • Mid-chapter test • Final test • Optional extra credit graphing project

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Unit 5 – Graphing Linear Equations (Chapter 10)

Time: 4 weeks

Curriculum Objectives: 1, 5, 8, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Define and find slope by using two points on a line • Write a linear equation in standard form given two points on the line • Write an equation in slope intercept form • Graph linear equations using slope and y-intercept • Determine the x and y intercepts of a graph • Graph linear equations using the x and y intercepts • Write equations of lines parallel to or perpendicular to a given line • Apply the Midpoint formula • Solve problems using pictographs, circle graphs, and comparative graphs 	<ul style="list-style-type: none"> • Use overhead projector to demonstrate graphing • Illustrate problems on the marker board • Introduce “T-Chart” for x and y intercepts • Do textbook exercises in class • Work with partners on problem-solving activities • Have students work and explain problems on the marker board • Use graphing calculators to graph linear equations • Five-Minute Check covering previous topics 	<ul style="list-style-type: none"> • Textbook: Merrill <i>Algebra I Applications and Connections</i> • Overhead projector and graphing transparencies • Map of local area • Graph paper • Rulers • Practice worksheets from Merrill Algebra I workbook • Teacher-generated worksheet • Additional posters on graphing and types of graphs • Calculators 	<ul style="list-style-type: none"> • Four quizzes • Completion of homework • Selected graded homework • Participation in class activities • Answering questions during class work • Five-Minute Checks • Mid-chapter test • Final test • Optional extra credit graphing project

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Unit 6 – Systems of Open Sentences (Chapter 11)

Time: 4 weeks

Curriculum Objectives: 6, 8, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Solve systems of equations by graphing • Determine whether a system of equations has one solution, no solutions, or infinite solutions • Use the substitution method to solve two equations • Use the elimination method of addition and subtraction to solve two equations • Solve systems of equations by the elimination method using multiplication and addition • Optional – Solve systems of inequalities by graphing 	<ul style="list-style-type: none"> • Demonstrate graphing using overhead projector • Illustrate problems on the marker board • Introduce “T-Chart” for x and y intercepts • Do textbook exercises in class • Work with partners on problem-solving activities • Have students work and explain problems on the marker board • Use graphing calculators to graph linear equations • Five-Minute Check covering previous topics 	<ul style="list-style-type: none"> • Textbook: Merrill <i>Algebra I Applications and Connections</i> • Overhead projector and graphing transparencies • Graph paper • Rulers • Colored pencils • Practice worksheets from Merrill Algebra I workbook • Teacher-generated worksheet • Movie “<i>The Power of Algebra Lesson Six</i>” • Calculators 	<ul style="list-style-type: none"> • Four quizzes • Completion of homework • Selected graded homework • Participation in class activities • Answering questions during class work • Five-Minute Checks • Mid-chapter test • Final test

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Unit 7 – Radical Expressions (Chapter 12)

Time: 4 weeks

Curriculum Objectives: 1, 7, and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Solve problems by using a table• Simplify rational square roots• Use the Pythagorean Theorem• Identify irrational numbers• Simplify radical expressions involving addition and subtraction• Use the distance formula	<ul style="list-style-type: none">• Illustrate problems on the marker board• Do textbook exercises in class• Have students work and explain problems on the marker board• Use graphing calculators to simplify radical expressions• Five-Minute Check covering previous topics	<ul style="list-style-type: none">• Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u>• Practice worksheets from Merrill Algebra I workbook• Teacher-generated worksheet• Calculators	<ul style="list-style-type: none">• Four quizzes• Completion of homework• Selected graded homework• Participation in class activities• Answering questions during class work• Five-Minute Checks• Mid-chapter test• Final test

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Unit 8 – Quadratic Formula (Chapter 13)

Time: 3 week

Curriculum Objectives: 3, 4, and 8

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Explore simple graphs of quadratic functions• Solve quadric equations by using the quadratic formula• Evaluate the discriminant of a quadratic equation and the nature of the roots• Determine best method for solving quadric equations	<ul style="list-style-type: none">• Illustrate problems on the marker board• Do textbook exercises in class• Have students work and explain problems on the marker board• Five-Minute Check covering previous topics	<ul style="list-style-type: none">• Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u>• Practice worksheets from Merrill Algebra I workbook• Teacher-generated worksheet• Calculators	<ul style="list-style-type: none">• Three quizzes• Completion of homework• Selected graded homework• Participation in class activities• Answering questions during class work• Five-Minute Checks• Final test

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Unit 9 – Statistics and Probability (Chapter 14 Review)

Time: 2 weeks

Curriculum Objectives: 8 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Interpret numerical data from a table • Display and interpret statistical data on a line plot • Display and interpret statistical data on a stem-and-leaf plot • Calculate and interpret the mean, medium, and mode of a set of data • Find the probability and odds of a simple event • Conduct and interpret probability experiments • Find the probability of a compound event 	<ul style="list-style-type: none"> • Illustrate problems on the marker board • Do textbook exercises in class • Work with partners on problem-solving activities • Have students work and explain problems on the marker board • Five-Minute Check covering previous topics 	<ul style="list-style-type: none"> • Textbook: Merrill <u><i>Algebra I Applications and Connections</i></u> • Practice worksheets from Merrill Algebra I workbook • Teacher-generated worksheet • Calculators • Dice • Coins • Number wheel and spinner • Deck of 52 playing cards • Rulers • Graph paper 	<ul style="list-style-type: none"> • Two quizzes • Completion of homework • Selected graded homework • Participation in class activities • Answering questions during class work • Five-Minute Checks • Final test • Extra credit project