

Algebra I

Chapter 1 – Expressions, Equations, and Functions

Is your life “balanced” as a believer?

Time: 15 days

Algebra I Objectives: 1, 2, 8 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Write expressions using exponents • Use the order of operations to evaluate expressions • Translate verbal expressions into mathematical expressions • Solve open sentences by performing arithmetic operations • Use a problem solving plan and tables to organize data • Represent functions as rules and tables • Represent a function as a graph 	<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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Algebra I

Chapter 2 – Properties of Real Numbers

Are you a “real” Christian?

Time: 17 days

Algebra I Objectives:

Curriculum Objectives: 1, 2, 8 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Graph and compare positive and negative integers on a number line Add, subtract, and multiply positive and negative numbers without using a number line Compare rational numbers and write in increasing or decreasing order Add and subtract rational numbers Simplify expressions that contain rational numbers Multiply and divide rational numbers Apply the distributive property Find square roots and compare real numbers 	<ul style="list-style-type: none"> Problem solve steps for adding or subtracting integers Observe and write the pattern for multiplying and dividing integers Illustrate problems on the marker board Do textbook exercises in class Draw Venn diagrams to illustrate number relationships 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: <u>Algebra I Holt, McDougal, Larson 2011</u> Practice worksheets from McDougal Littell Algebra I resource book Worksheets from <u>Algebra With Pizzazz</u> Teacher-generated worksheet Calculators 	<ul style="list-style-type: none"> Homework Worksheets Participation in class activities Answering questions during class work Quizzes Test

Algebra I

Chapter 3 – Solving Linear Equations

Why is tithing based on a percent rather than a flat rate? Who benefits from the percentage scale?

Time: 14 days

Algebra I Objectives:

Curriculum Objectives: 1, 2, 3 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Solve equations with one step by using addition, subtraction, multiplication, or division • Solve equations involving more than one operation • Solve equations with the variable on both sides • Solve equations containing grouping symbols • Solve equations containing fractions or decimals • Solve equations containing more than one variable • Rewrite an equation in function form • Write ratios and proportions • Use ratios and rates to solve problems • Use percents to solve problems 	<ul style="list-style-type: none"> • Write five steps for solving equations • 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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Algebra I

Chapter 4 – Graphing Linear Equations and Functions

Does the evidence in your life show a “relation” to Christ or the world?

Time: 17 days

Algebra I Objectives:

Curriculum Objectives: 1, 2, 3, 5 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> Plot points in a coordinate plane Graph a linear equation using a table or a list of values Graph horizontal and vertical lines Find the intercepts of the graph of a linear equation Use intercepts to make a quick graph Find the slope of a line using two points Graph a linear equation in slope-intercept form Identify when a relation is a function Optional – write linear equations that represent direct variation 	<ul style="list-style-type: none"> Use the “T” model for quick intercepts 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: <u>Algebra I Holt, McDougal, Larson 2011</u> Practice worksheets from McDougal Littell Algebra I resource book Worksheets from <u>Algebra With Pizzazz</u> Teacher-generated worksheet Calculators 	<ul style="list-style-type: none"> Homework Worksheets Participation in class activities Answering questions during class work Quizzes Test

Algebra I

Chapter 5 – Writing Linear Equations

The rate of change in our spiritual lives should be one of constant growth just like the positive slope of a line.

Time: 15 days

Algebra I Objectives:

Curriculum Objectives: 1, 2, 3, 5 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Use the slope-intercept form to write an equation of a line • Use slope and any point on a line to write a equation of the line • Write an equation of a line given two points on the line • Use point-slope form to write an equation of a line • Write a linear equation in standard form • Write equations of parallel and perpendicular lines • Draw a scatter plot and make predictions (optional) 	<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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Algebra I

Chapter 6 – Solving and Graphing Linear Inequalities

The greatest among you shall be your servant. Whoever exalts himself will be humbled, and whoever humbles himself will be exalted. Matthew 23:11-12

Time: 11 days

Algebra I Objectives:

Curriculum Objectives: 1, 3, 5, 8 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Solve and graph linear inequalities in one variable • Solve one-step linear inequalities • Solve multi-step linear inequalities 	<ul style="list-style-type: none"> • Illustrate problems on the marker board • Do textbook exercises in class • Work with partners on problem-solving activities 	<ul style="list-style-type: none"> • Textbook: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes

<ul style="list-style-type: none"> • Write, solve and graph compound inequalities • Solve absolute-value equations and inequalities • Graph a linear inequality in two variables 	<ul style="list-style-type: none"> • Have students work and explain problems on the marker board • Five-Minute Check covering previous topics 	<ul style="list-style-type: none"> • Worksheets from <i>Algebra With Pizzazz</i> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Test
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Algebra I

Chapter 7 – Systems of Equations and Inequalities

What happens when you have too many variables in your life?

Time: 13 days

Algebra I Objectives:

Curriculum Objectives: 1, 3, 5, 6 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Solve a system of linear equations by graphing• Use substitution to solve a linear system• Use linear combinations to solve a system of linear equations• Identify linear systems as having one solution, no solution or infinitely many solutions• Solve a system of linear inequalities by graphing	<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: <u>Algebra I Holt, McDougal, Larson 2011</u>• Practice worksheets from McDougal Littell Algebra I resource book• Worksheets from <u>Algebra With Pizzazz</u>• Teacher-generated worksheet• Calculators	<ul style="list-style-type: none">• Homework• Worksheets• Participation in class activities• Answering questions during class work• Quizzes• Test

Algebra I

Chapter 8 – Exponents and Exponential Functions

What brings about growth and decay in the church?

Time: 11 days

Algebra I Objectives:

Curriculum Objectives: 2 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Use properties of exponents to multiply exponential expressions• Use properties of exponents involving quotients• Evaluate powers that have zero and negative exponents• Use the division properties of exponents to evaluate powers and simplify expressions• Use scientific notation to represent numbers• Optional-write and use models for exponential growth• Optional-write and use models for exponential decay	<ul style="list-style-type: none">• Illustrate why an exponent of zero is one and why negative exponents make a fraction by using division• 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: <u>Algebra I Holt, McDougal, Larson 2011</u>• Practice worksheets from McDougal Littell Algebra I resource book• Worksheets from <u>Algebra With Pizzazz</u>• Teacher-generated worksheet• Calculators	<ul style="list-style-type: none">• Homework• Worksheets• Participation in class activities• Answering questions during class work• Quizzes• Test

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Chapter 9 – Polynomials and Factoring

What are the factors of the gospel message?

Time: 11 days

Algebra I Objectives:

Curriculum Objectives: 3, 4, 5, 7 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Add and subtract polynomials • Multiply two polynomials • Use special product patterns for the product of a sum and difference and for the square of a binomial • Solve a polynomial equation in factored form • Factor a quadratic expression of the form x^2+bx+c • Factor a quadratic expression of the form ax^2+bx+c • Solve quadratic equations by factoring • Use special product patterns to factor quadratic polynomials • Use the distributive property to factor a polynomial by grouping 	<ul style="list-style-type: none"> • Illustrate problems on the marker board • Teach the ARCH method for factoring trinomials • 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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Algebra I

Chapter 10 – Quadratic Equations and Functions

According to the Bible, what things remain constant, and what things change?

Time: 21 days

Algebra I Objectives:

Curriculum Objectives: 3, 4, 5 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Sketch the graph of a quadratic function • Solve a quadratic equation graphically • Evaluate and approximate square roots • Solve a quadratic equation by finding square roots • Solve quadratic equations by completing the square • Use the quadratic formula to solve a quadratic equation • Optional-use the discriminant to find the number of solutions of a quadratic equation • Optional-Compare linear, exponential, and quadratic models 	<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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Chapter 11 – Radicals and Connections to Geometry

Can geometry be seen in creation outside of math?

Time: 16 days

Algebra I Objectives:

Curriculum Objectives: 3, 4, 6 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Evaluate and graph a function involving square roots • Add, subtract, multiply and divide radical expressions • Solve a radical equation • Use the Pythagorean theorem and its converse • Find the distance between two points in a coordinate plane • Find the midpoint between two points in a coordinate plane 	<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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test

Algebra I

Chapter 12 – Rational Equations and Functions

What are “rational arguments” for the creation account in Genesis 1?
What does the Bible mean by “setting your mind on things above, not on things below”?
[Colossians 3:2]

Time: Optional

Algebra I Objectives:

Curriculum Objectives: 7 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none">• Optional-use direct and inverse variation• Graph rational functions• Divide a polynomial by a monomial or by a binomial factor• Simplify a rational expression• Multiply and divide rational expressions• Add and subtract rational expressions that have like and unlike denominators• Solve rational 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: <u>Algebra I Holt, McDougal, Larson 2011</u>• Practice worksheets from McDougal Littell Algebra I resource book• Worksheets from <u>Algebra With Pizzazz</u>• Teacher-generated worksheet• Calculators	<ul style="list-style-type: none">• Homework• Worksheets• Participation in class activities• Answering questions during class work• Quizzes• Test

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Chapter 13 – Probability and Data Analysis

What events in the future do we know for certain?

Time: Optional

Algebra I Objectives:

Curriculum Objectives: 7 and 9

Objectives	Methods	Resources	Assessment
<p>The student will:</p> <ul style="list-style-type: none"> • Find sample spaces and probabilities • Use the formula for the number of permutations • Use combinations to count possibilities • Find the probability of a compound event • Identify populations and sampling methods • Compare measures of central tendency and dispersion • Make stem-and-leaf plots and histograms • Make and interpret box-and-whisker plots 	<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: <u>Algebra I Holt, McDougal, Larson 2011</u> • Practice worksheets from McDougal Littell Algebra I resource book • Worksheets from <u>Algebra With Pizzazz</u> • Teacher-generated worksheet • Calculators 	<ul style="list-style-type: none"> • Homework • Worksheets • Participation in class activities • Answering questions during class work • Quizzes • Test