Curriculum Map
Algebra One CP1 (311)
Saugus High School
Saugus Public Schools

Week 1

Performance Standards

The students will:

10.N.1 Identify and use the properties of operations on real numbers.
10.N.2 Simplify numerical expressions.

Unit/Topic/Lesson
UNIT ONE
BASIC ALGEBRAIC CONCEPTS

1. Variables and Algebraic Expressions
2. Real Numbers and Absolute Value
3. Adding and Subtracting Real Numbers

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To translate between words and algebra.
2. To evaluate algebraic expressions.
3. To compare real numbers.
4. To simplify algebraic expressions.
5. To add and subtract real numbers.
6.

Essential Question

What is the difference between a numerical expression and an algebraic expression?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 2

Performance Standards

The students will:

10.N.1 Identify and use the properties of operations on real numbers.
10.N.2 Simplify numerical expressions.

Unit/Topic/Lesson
UNIT ONE
BASIC ALGEBRAIC CONCEPTS

1. Multiplying and Dividing Real Numbers
2. Bases, Powers, and Exponents

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To multiply and divide real numbers.
2. To evaluate expressions that contains exponents.

Essential Question

Why is it critical to put parenthesis around the base if the base is negative?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 3

Performance Standards

The students will:

10.N.1 Identify and use the properties of operations on real numbers.
10.N.2 Simplify numerical expressions.

Unit/Topic/Lesson
UNIT ONE
BASIC ALGEBRAIC CONCEPTS

1. Types of Numbers (Rational v. Irrational)
2. Square Roots

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To classify numbers within the real number system.
2. To find and approximate values of square roots.

Essential Question

How do you approximate the value of a square root without the use of a calculator?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 4

Performance Standards

The students will:

10.N.1 Identify and use the properties of operations on real numbers.
10.N.2 Simplify numerical expressions.

Unit/Topic/Lesson
UNIT ONE
BASIC ALGEBRAIC CONCEPTS

1. Order of Operations (PEMDAS)
2. Simplifying Expressions with Real Numbers

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To use the order of orders to simplify expressions involving real numbers.
2. To use properties of equality to simplify expressions.
3. To combine like terms in an algebraic expression.

Essential Question

When using PEMDAS to simplify an expression, must multiplication occur prior to division?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concept of Basic Algebra.

Completion date:

Completed by:

Comments:

Week 5

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., |x - 2| > 5) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT TWO
SOLVING EQUATIONS

1. Solving Equations by Adding and Subtracting (One-Step)
2. Solving Equations by Multiplying and Dividing (One-Step)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve one-step equations in one variable by using addition or subtraction.
2. To solve equations in one variable by using multiplication or division.

Essential Question

How do you decide which inverse operation to use first when solving a two-step equation?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 6

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., |x – 2| > 5) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT TWO
SOLVING EQUATIONS

1. Solving Two-Step Equations
2. Solving Multi-Step Equations
3. Solving Equations Involving the Distributive Property.

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve equations in one or more variables that contains more than one operation.
2. To solve equations in one variable that contains more than one operation.
3. To use the distributive when necessary to solve equations.

Essential Question

How do you decide the order in which you solve an equation that requires several steps?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 7

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., $|x - 2| > 5$) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT TWO
SOLVING EQUATIONS

1. Solving Equations with Variables on Both Sides
2. Solving for a Variable

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve equations in one variable with variables on both sides of the equation.
2. To solve an equation with two or variables for one of the variables

Essential Question

In what situations would it be necessary to solve an equation for a given variable?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 8

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., $|x - 2| > 5$) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT TWO
SOLVING EQUATIONS

1. Review of Solving Linear Equations in One Variable
2. Solving Word Problems Involving Linear Equations

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To review all the method and procedures for solving a linear equation in one variable.
2. To solve a variety of word problems that involves linear equation concepts.

Essential Question

How do you apply your skills and understanding of linear equation translate into solving a variety of word problems?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 9

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., $|x - 2| > 5$) and apply to the solution of problems.
The students will:

Unit/Topic/Lesson
UNIT TWO
SOLVING EQUATIONS

1. Solving Problems Using Formulas
2. Solving Problems Using Literal Equations

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve a formula for a given variable.
2. To solve problems involving literal equations.

Essential Question

How do you use formula, where the unknown variable is not the variable solved for in the formula?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Solving Equations.

Completion date:

Completed by:

Comments:

Week 10

Performance Standards

The students will:

10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., $|x - 2| > 5$) and apply to the solution of problems.
The students will:

Unit/Topic/Lesson
UNIT THREE
SOLVING INEQUALITES AND ABSOLUTE VALUES

1. Graphing and Writing Inequalities
2. Solving Basic One-Step Inequalities
3. Solving Two-Step Inequalities

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To graph and write inequalities in one variable.
2. To solve one and two step inequalities in one variable.

Essential Question

How is the approach for solving a linear inequality different and the same as solving a linear equation?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 11

Performance Standards

The students will:
10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., |x - 2| > 5) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT THREE
SOLVING INEQUALITES AND ABSOLUTE VALUES

1. Solving Multi-Step Inequalities
2. Solving Inequalities with Variables on Both Sides

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve multi-step inequalities in one variable.
2. To solve inequalities in one variable that contains variables on both sides.

Essential Question

How do you change from the variable being on the right side of the inequality to the left side of the inequality without changing the meaning of the inequality?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 12

Performance Standards

The students will:
10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., |x - 2| > 5) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT THREE
SOLVING INEQUALITES AND ABSOLUTE VALUES

1. Solving Compound Inequalities

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve compound inequalities.

Essential Question

How do you decide whether a compound inequality represents an intersection or a union?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 13

Performance Standards

The students will:
10.P.6 Solve equations and inequalities including those involving absolute value of linear expressions (e.g., |x - 2| > 5) and apply to the solution of problems.

Unit/Topic/Lesson
UNIT THREE
SOLVING INEQUALITES AND ABSOLUTE VALUES

1. Absolute Value Equations
1. Absolute Value Inequalities

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve absolute value equations in one variable.
2. To solve absolute value inequalities in one variable.

Essential Question

How do you determine whether an absolute value inequality should be written as an intersection or a union?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Solving Inequalities and Absolute Values.

Completion date:

Completed by:

Comments:

Week 14

Performance Standards

The students will:
10.P.1 Describe, complete, extend, analyze, generalize, and create a wide variety of patterns, including iterative, recursive (e.g., Fibonacci Numbers), linear, quadratic, and exponential functional relationships.

Unit/Topic/Lesson
UNIT FOUR
PROPORTIONS AND PERCENTS

1. Rates, Ratios, and Proportions
2. Applications of Proportions

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To write and use ratios, rates, and unit price.
2. To write and solve proportions.
3. To use proportions to solve problems involving geometric figure.
4. To use proportions and similar figures to measure objects indirectly.

Essential Question

How do you determine whether a proportion is true or false?

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2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
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3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 15

Performance Standards

The students will:
10.P.1 Describe, complete, extend, analyze, generalize, and create a wide variety of patterns, including iterative, recursive (e.g., Fibonacci Numbers), linear, quadratic, and exponential functional relationships.

Unit/Topic/Lesson
UNIT FOUR
PROPORTIONS AND PERCENTS

1. Percents
2. Applications of Percents

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve basic percent problems.
2. To use common applications of percents.
3. To estimate with percents

Essential Question

What is the procedure for converting a decimal or a fraction to a percent?

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Media Resources

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4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Proportions and Ratios.

Completion date:

Completed by:

Comments:

Week 16

Performance Standards

The students will:
10.P.1 Describe, complete, extend, analyze, generalize, and create a wide variety of patterns, including iterative, recursive (e.g., Fibonacci Numbers), linear, quadratic, and exponential functional relationships.
10.P.2 Demonstrate an understanding of the relationship between various representations of a line. Determine a line's slope and x- and y-intercepts from its graph or from a linear equation that represents the line. Find a linear equation describing a line from a graph or a geometric description of the line, e.g., by using the "point-slope" or "slope y-intercept" formulas. Explain the significance of a positive, negative, zero, or undefined slope.

Unit/Topic/Lesson
UNIT FIVE
LINEAR FUNCTIONS

1. Relations and Functions
2. Writing, Evaluating, and Graphing Functions
3. Identifying Linear Functions

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To identify relations and functions.
2. To find the domain and range of relations and functions.
3. To identify independent and dependent variables.
4. To write an equation in function notation and evaluate a function for given input values.

Essential Question

How do you determine whether a relation is a function and how to you determine both its domain and range?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 17

Performance Standards

The students will:

10.P.2 Demonstrate an understanding of the relationship between various representations of a line. Determine a line's slope and x- and y-intercepts from its graph or from a linear equation that represents the line. Find a linear equation describing a line from a graph or a geometric description of the line, e.g., by using the "point-slope" or "slope y-intercept" formulas. Explain the significance of a positive, negative, zero, or undefined slope.

Unit/Topic/Lesson
UNIT FIVE
LINEAR FUNCTIONS

1. Graphs of Linear Functions
2. Using Intercepts to Graph Linear Functions (Standard Form)
3. Rate of Change and Definition of Slope

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To identify linear functions and equations.
2. To graph linear functions that represents real- world situations and gives their domain and range.
3. To use the x- and y- intercepts to graph lines.
4. To find rates of change and slopes.
5. To relate a constant rate of change to the slope of a line.

Essential Question

What is the slope of a given line and how do you find it both graphically and algebraically?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 18

Performance Standards

The students will:

10.P.2 Demonstrate an understanding of the relationship between various representations of a line. Determine a line's slope and x- and y-intercepts from its graph or from a linear equation that represents the line. Find a linear equation describing a line from a graph or a geometric description of the line, e.g., by using the "point-slope" or "slope y-intercept" formulas. Explain the significance of a positive, negative, zero, or undefined slope.

Unit/Topic/Lesson
UNIT FIVE
LINEAR FUNCTIONS

1. The Formula for Slope
2. Forms of Linear Function (Standard Form)
3. Forms of Linear Function (Slope-Intercept)
4. Forms of Linear Function (Point-Slope)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To find the slope by using the formula for slope.
2. To write a linear equation in slope-intercept form.
3. To graph a line using slope-intercept form.
4. To graph a line and write a linear equation using point-slope form.
5. To write a linear equation given two points.

Essential Question

When would you use each of the various form of a linear equation?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 19

Performance Standards

The students will:

10.P.2 Demonstrate an understanding of the relationship between various representations of a line. Determine a line's slope and x- and y-intercepts from its graph or from a linear equation that represents the line. Find a linear equation describing a line from a graph or a geometric description of the line, e.g., by using the "point-slope" or "slope y-intercept" formulas. Explain the significance of a positive, negative, zero, or undefined slope.

Unit/Topic/Lesson
UNIT FIVE
LINEAR FUNCTIONS

1. Slopes of Parallel and Perpendicular Lines
2. Writing Linear Equations (Given Various Pieces of Information)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To identify and graph parallel lines and perpendicular lines.
2. To write equations to describe lines parallel or perpendicular to a given line.
3. To write linear equations given a various combinations of information.

Essential Question

What is the relationship between the slopes of perpendicular and parallel lines?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Linear Functions.

Completion date:

Completed by:

Comments:

Week 20

Performance Standards

The students will:

10.P.8 Solve everyday problems that can be modeled using systems of linear equations or inequalities. Apply algebraic and graphical methods to the solution. Use technology when appropriate. Include mixture, rate, and work problems.

Unit/Topic/Lesson
UNIT SIX
SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES

1. Solving a System of Linear Equations (Graphically on Paper)
2. Consistent and Inconsistent Systems
3. Independent and Dependent Systems

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To solve a system of two linear equations by graphing and determining the point of intersection.
2. To determine whether systems are independent or dependent.
3. To determine whether systems are consistent or inconsistent.

Essential Question

How do the concepts of slope and y-intercept determine whether systems of linear equations are independent or dependent and consistent or inconsistent?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 21

Performance Standards

The students will:
10.P.8 Solve everyday problems that can be modeled using systems of linear equations or inequalities. Apply algebraic and graphical methods to the solution. Use technology when appropriate. Include mixture, rate, and work problems.

Unit/Topic/Lesson
UNIT SIX
SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES

1. Solving a System of Linear Equations (Substitution Method)
2. Solving a System of Linear Equations (Elimination Method)

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To solve a system of two linear equations algebraically using substitution.
2. Too solve a system of two linear equations algebraically using elimination.

Essential Question

When would use the substitution method rather than the elimination method to solve a system of linear equations?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 22

Performance Standards

The students will:
10.P.8 Solve everyday problems that can be modeled using systems of linear equations or inequalities. Apply algebraic and graphical methods to the solution. Use technology when appropriate. Include mixture, rate, and work problems.

Unit/Topic/Lesson
UNIT SIX
SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES

1. Solving and Graphing a Linear Inequalities with Two Variables
2. Solving a System of Linear Inequalities

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To solve and graph linear inequalities with two variables.
2. To solve a system of linear inequalities.

Essential Question

When you graph a linear inequality, how do you determine the region that is to be shaded?

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Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Systems of Linear Equations and Inequalities.

Completion date:

Completed by:

Comments:

Week 23

Performance Standards

The students will:
10.P.3 Add, subtract, and multiply polynomials. Divide polynomials by monomials.

Unit/Topic/Lesson
UNIT SEVEN
LAWS OF EXPONENTS

1. Integer Exponents
2. Negative Exponents
3. Zero Exponents

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To evaluate expressions containing zero and integer exponents.
2. To simplify expressions containing zero and integer exponents.

Essential Question

How do you convert an expression so that it does not contain negative exponents?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 4

Performance Standards

The students will:
10.P.3 Add, subtract, and multiply polynomials. Divide polynomials by monomials.

Unit/Topic/Lesson
UNIT SEVEN
LAWS OF EXPONENTS

1. Multiplying Monomials
2. Multiplication Property (Product of Powers Property)
3. Multiplication Property (Power of a Power Property)
4. Multiplication Property (Power of Product Property)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To multiply monomials.
2. To use multiplication properties of exponents to evaluate and simplify expressions.

Essential Question

How can you check your answers when multiplying monomials to be certain you used each property correctly?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 25

Performance Standards

The students will:

10.P.3 Add, subtract, and multiply polynomials. Divide polynomials by monomials.

Unit/Topic/Lesson

UNIT SEVEN

LAWS OF EXPONENTS

1. Dividing Monomials
2. Division Property (Quotient of Powers Property)
3. Division Property (Positive Power of a Quotient Property)
4. Division Property (Negative Power of a Quotient Property)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To divide monomials
2. To use division properties of exponents to evaluate and simplify expressions.

Essential Question

What does the concept of a negative exponent mean, as it relates to size of a number or where the variable should be in a quotient?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 26

Performance Standards

The students will:

10.P.7 everyday problems that can be modeled using linear, reciprocal, quadratic, or exponential functions. Apply appropriate tabular, graphical, or symbolic methods to the solution. Include compound interest, and direct and inverse variation problems. Use technology when appropriate.

Unit/Topic/Lesson

UNIT SEVEN

LAWS OF EXPONENTS

1. Scientific Notation (Powers of Ten)

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To evaluate and multiply by powers of ten.
2. To convert between standard notation and scientific notation.

Essential Question

Why would you use scientific notation to represent a number?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts involving the Laws of Exponents.

Completion date:

Completed by:

Comments:

Week 27

Performance Standards

The students will:
10.P.3 Add, subtract, and multiply polynomials. Divide polynomials by monomials.

Unit/Topic/Lesson
UNIT EIGHT
POLYNOMIALS

1. Classification of Polynomials
2. Addition and Subtraction of Polynomials
3. Multiplication of Polynomials by a Monomial
4. Division of Polynomial by a Monomial

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To classify polynomials and write polynomials in standard form.
2. To evaluate polynomial expressions.
3. To add and subtract polynomials.
4. To multiply and divide polynomials by monomials.

Essential Question

How does the concept of combining like terms work as it relates to operations with polynomials?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 28

Performance Standards

The students will:
10.P.3 Add, subtract, and multiply polynomials. Divide polynomials by monomials.

Unit/Topic/Lesson
UNIT EIGHT
POLYNOMIALS

1. Multiplication of Binomials
2. Multiplication of Polynomials
3. Special Products

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To multiply two binomials using the FOIL Method.
2. To expand that method to multiply polynomials in general.
3. To calculate the special products of binomials.

Essential Question

How is the FOIL Method an expansion of the distributive property?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Polynomials.

Completion date:

Completed by:

Comments:

Week 29

Performance Standards

The students will:
10.P.4 Demonstrate facility in symbolic manipulation of polynomial and rational expressions by rearranging and collecting terms; factoring (e.g., $a^2 - b^2 = (a + b)(a - b)$, $x^2 + 10x + 21 = (x + 3)(x + 7)$, $5x^4 + 10x^3 - 5x^2 = 5x^2(x^2 + 2x - 1)$); identifying and canceling common factors in rational expressions; and applying the properties of positive integer exponents.

Unit/Topic/Lesson
UNIT NINE
FACTORING POLYNOMIALS

1. Factors and Greatest Common Factors
2. Factoring Polynomials by Common Factors (GCF)
3. Factoring Special Polynomials

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To factor polynomials by using greatest common factor.
2. To factor special polynomials

Essential Question
What is the relationship of the distributive property and the concept of factoring out a common factor from an expression?

Teacher Resources
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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources
1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities
Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 30

Performance Standards

The students will:
10.P.4 Demonstrate facility in symbolic manipulation of polynomial and rational expressions by rearranging and collecting terms; factoring (e.g., $a^2 - b^2 = (a + b)(a - b)$, $x^2 + 10x + 21 = (x + 3)(x + 7)$, $5x^4 + 10x^3 - 5x^2 = 5x^2(x^2 + 2x - 1)$); identifying and canceling common factors in rational expressions; and applying the properties of positive integer exponents.

Unit/Topic/Lesson
UNIT NINE
FACTORING POLYNOMIALS

1. Factoring Trinomials $\left(ax^2 + bx + c\right)$
2. Factoring Perfect Square Trinomials
3. Factoring the Difference of Two Squares

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To factor quadratic trinomials.
2. To factor perfect square trinomials.
3. To factor the difference of two squares.

Essential Question
What is the relationship between factoring quadratic trinomials and the FOIL Method?

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources
1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities
Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Factoring Polynomials

Completion date:

Completed by:

Comments:

Week 31

Performance Standards

The students will:
10.P.4 Demonstrate facility in symbolic manipulation of polynomial and rational expressions by rearranging and collecting terms; factoring (e.g., $a^2 – b^2 = (a + b)(a – b)$, $x^2 + 10x + 21 = (x + 3)(x + 7)$, $5x^4 + 10x^3 – 5x^2 = 5x^2 (x^2 + 2x – 1)$); identifying and canceling common factors in rational expressions; and applying the properties of positive integer exponents.

Unit/Topic/Lesson
UNIT TEN
RATIONAL FUNCTIONS AND EQUATIONS

1. Inverse Variation
2. Rational Expressions Functions
3. Simplifying Rational Expressions

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To identify, write, and graph inverse variations.
2. To identify excluded values of rational functions.
3. To graph rational functions.
4. To simplify rational expressions.

Essential Question

Why is the process of factoring important when you are simplifying rational expressions?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 32

Performance Standards

The students will:
10.P.4 Demonstrate facility in symbolic manipulation of polynomial and rational expressions by rearranging and collecting terms; factoring (e.g., $a^2 – b^2 = (a + b)(a – b)$, $x^2 + 10x + 21 = (x + 3)(x + 7)$, $5x^4 + 10x^3 – 5x^2 = 5x^2 (x^2 + 2x – 1)$); identifying and canceling common factors in rational expressions; and applying the properties of positive integer exponents.

Unit/Topic/Lesson
UNIT TEN
RATIONAL FUNCTIONS AND EQUATIONS

1. Addition and Subtraction of Rational Expressions (Same Denominators)
2. Multiplication of Rational Expressions
3. Division of Rational Expressions

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To add and subtract rational expressions with like denominators.
2. To add and subtract rational expressions with unlike denominators.
3. To multiply rational expressions.
4. To divide rational expressions.

Essential Question

Why is it necessary to state restrictions when performing operations with rational expressions?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Rational Functions and Equations.

Completion date:

Completed by:

Comments:

Week 33

Performance Standards

The students will:
10.N.3 Find the approximate value for solutions to problems involving square roots and cube roots without the use of a calculator, e.g., $\sqrt{3^2-1} \approx 2.8$.

Unit/Topic/Lesson
UNIT ELEVEN
RADICAL FUNCTIONS AND EQUATIONS

1. Square Roots and Simplifying Square Roots
2. Simplification of Radicals
3. Multiplying and Dividing Radicals

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To find the square roots of perfect square.
2. To write radical expressions in simplest form.
3. To multiply and divide radical expressions.
4. To rationalize denominators.

Essential Question
How do you determine whether a radical is in simplest form?

Teacher Resources
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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources
1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities
Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 34

Performance Standards

The students will:
10.N.3 Find the approximate value for solutions to problems involving square roots and cube roots without the use of a calculator, e.g., $\sqrt{3^2-1} \approx 2.8$.

Unit/Topic/Lesson
UNIT ELEVEN
RADICAL FUNCTIONS AND EQUATIONS

1. Addition and Subtraction of Radicals (Like Radicals)
2. Addition and Subtraction of Radicals (Unlike Radicals)
3. Square-Root Functions

Mission and Expectations
1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives
1. To add or subtract like radicals.
2. To add or subtract unlike radicals by first simplifying.
3. To identify the square-root function.

Essential Question
What do you need before you can combine terms of radical expressions?

Teacher Resources
Bittinger Elementary Algebra ©2002

1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources
1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities
Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On the concepts of Radical Functions and Equations.

Completion date:

Completed by:

Comments:

Week 35

Performance Standards

The students will:

10.D.1 Select, create, and interpret an appropriate graphical representation (e.g., scatter plot, table, stem-and-leaf plots, box-and-whisker plots, circle graph, line graph, and line plot) for a set of data and use appropriate statistics (e.g., mean, median, range, and mode) to communicate information about the data. Use these notions to compare different sets of data.

Unit/Topic/Lesson

UNIT TWELVE

DATA ANALYSIS AND PROBABILTY

1. Measures of Central Tendency
2. Organizing and Displaying Data
3. Introduction to Probability
4. Theoretical and Experimental Probability

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To work with measures of central tendency and to decide the appropriate measure for a given data set.
2. To organize data in tables and graphs.
3. To choose a table or graph to display data.
4. To determine the theoretical and experimental probabilities of events.

Essential Question

How do you determine which measure of central tendency best represents a given set of data?

Teacher Resources

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1. Textbook Lessons and Exercises
2. Teacher-Made Worksheets
3. Teacher-Made Assessments

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Completion date:

Completed by:

Comments:

Week 36

Performance Standards

The students will:

10.D.1 Select, create, and interpret an appropriate graphical representation (e.g., scatter plot, table, stem-and-leaf plots, box-and-whisker plots, circle graph, line graph, and line plot) for a set of data and use appropriate statistics (e.g., mean, median, range, and mode) to communicate information about the data. Use these notions to compare different sets of data.

Unit/Topic/Lesson

UNIT TWELVE

DATA ANALYSIS AND PROBABILTY

1. Counting the Elements of a Set
2. The Fundamental Counting Principle
3. Permutations and Combinations

Mission and Expectations

1. Critical Thinking Skills 2. Problem Solving Skills 3. Test Taking Skills

Objectives

1. To find the union and intersection of sets.
2. To count elements of a set.
3. To use tree diagrams and the Fundamental Counting Principal to count the number of choices that can be made from sets.
4. To solve problems involving permutations and combinations.

Essential Question

How do you determine whether a situation represents a permutation or a combination?

Teacher Resources

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4. Textbook Lessons and Exercises
5. Teacher-Made Worksheets
6. Teacher-Made Assessments
1.

Media Resources

1. Teacher-Made PowerPoint Presentations
2. Bittinger Test Generator
3. Electronic Worksheets in TeacherShared Folder
4. Teacher-Made Web-Based Assessments

Evaluation/Activities

Homework: To be given daily on each introduced topic
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Test: On concepts involving Data Analysis.

Completion date:

Completed by:

Comments: