

Sequential Algebra 2
West Aurora School District
State Goal 6 – Number Sense

STATE GOAL 6 – Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios, and proportions.

Concepts: Need to Know About Number Sense

- Equivalent Number Forms
- Simple Matrix Operations
- Number Sentences and Word Problems
 - Rational Numbers
 - Single and Multi-Step
 - Ratios and Proportions
 - Four Basic Operations
- Percent
- Direct and Indirect Variation
- Reasonableness of Solutions

Skills: Be Able to Do

- **Represent** (Equivalent Number Forms)
- **Set-up** (Problems using Simple Matrix Operations, Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)
- **Evaluate** (Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)
- **Solve** (Problems using Simple Matrix Operations, Single and Multi-Step Number Sentences and Word Problems Involving Ratios, Proportions, Percents, etc with Rational Numbers)
- **Judge** (Reasonableness of Solutions)

Topics or Contexts: Equivalent number forms include the following: fraction/decimal/percent, radical/rational exponents, exponential, absolute value, scientific notation.

Problems involving ratios and proportions may include the following: quantity comparisons, rate of change, and unit rate.

Percent problems would be dealing with: sales tax, tips, interest, discount, markup, quantity comparisons, commission, and compound interest.

Various lessons in textbook

Problem solving activities involving real-life situations

Big Ideas

Essential Questions

Sequential Algebra 2
West Aurora School District
State Goal 7 – Measurement

STATE GOAL 7 – Estimate, make and use measurement of objects, quantities and relationships and determine acceptable levels of accuracy.

Concepts: Need to Know About Measurement

- Unit Conversions
 - Same System
 - Different System

Skills: Be Able to Do

- **Change** (Unit Conversions Including Calculations with Mixed Units and/or Given a Conversion Factor)

Topics or Contexts: Various lessons in textbook

Problem solving activities involving real-life situations

Big Ideas

Essential Questions

Sequential Algebra 2
West Aurora School District
State Goal 8 – Algebra

STATE GOAL 8 – Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

Concepts: Need to Know About Algebra

- Equivalent Algebraic Expressions
- Shape and Properties of Functions
 - Graphs
 - Tables
 - Equations
- Systems of Equations and Inequalities
- Quadratic Equations

Skills: Be Able to Do

- **Simplify** (Equivalent Algebraic Expressions)
- **Identify** (Equivalent Algebraic Expressions)
- **Recognize** (Shape and Properties of Functions from Graphs, Tables, and Equations)
- **Describe** (Shape and Properties of Functions from Graphs, Tables, and Equations)
- **Analyze** (Shape and Properties of Functions from Graphs, Tables, and Equations)
- **Solve** (Quadratic Equations and Systems of Equations and Inequalities)
- **Graph** (Systems of Equations and Inequalities)

Topics or Contexts: Equivalent algebraic expressions would be in the form: exponential, rational, factored, polynomial.

Review plotting and identifying points on a coordinate plane.

Review graphing lines and inequalities on a coordinate plane.

Various lessons in textbook

Problem solving activities involving real-life situations

Big Ideas

Essential Questions

Sequential Algebra 2
West Aurora School District 129
State Goal 10 – Data Analysis, Statistics, and Probability

STATE GOAL 10 – Collect, organize, and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

Concepts: Need to Know About Data Analysis

- Probabilities
 - Single Events
 - Repeated Trials With and Without Replacement
 - Compound Events

Skills: Be Able to Do

- **Compute** (Probability of a Single Event, Repeated Trials With and Without Replacement, and Compound Events)

Topics or Contexts: Various lessons in textbook

Problem solving activities involving real-life situations

Big Ideas

Essential Questions