



Waukegan Community Unit
School District #60
Lincoln Center for Educational Services
Division of Teaching, Learning, and Professional Practices

The Core Principals: Standards for Mathematical Practice Model Traditional Pathway: Model Algebra I Overview

The goal of the Standards for Mathematical Practice is to complement the Common Core State Standards by working to engage students in the subject matter, ensuring that they grow in maturity and expertise from Pre-Kindergarten through High School.

Number and Quantity

- The Real Number System
 - Extend the properties of exponents to rational exponents
 - Use properties of rational and irrational numbers
- Quantities
 - Reason quantitatively and use units to solve problems

Algebra

- Seeing Structure in Expressions
 - Interpret the structure of expressions
 - Write expressions in equivalent forms to solve problems
- Arithmetic with Polynomials and Rational Expressions
 - Perform arithmetic operations on polynomials
- Creating Equations
 - Create equations that describe numbers or relationships
- Reasoning with Equations and Inequalities
 - Understand solving equations as a process of reasoning and explain the reasoning
 - Solve equations and inequalities in one variable
 - Solve systems of equations
 - Represent and solve equations and inequalities graphically

Functions

- Interpreting Functions
 - Understand the concept of a function and use function notation
 - Interpret functions that arise in applications in terms of the context
 - Analyze functions using different representations
- Building Functions
 - Build a function that models a relationship between two quantities
 - Build new functions from existing functions
- Linear, Quadratic, and Exponential Models
 - Construct and compare linear, quadratic, and exponential models and solve problems
 - Interpret expressions for functions in terms of the situation they model

Continued...

Statistics and Probability

- Interpreting Categorical and Quantitative Data
 - Summarize, represent, and interpret data on a single count or measurement variable
 - Summarize, represent, and interpret data on two categorical and quantitative variables
 - Interpret linear models

Standards for Mathematical Practice
<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them2. Reason abstractly and quantitatively3. Construct viable arguments and critique the reasoning of others4. Model with mathematics5. Use appropriate tools strategically6. Attend to precision7. Look for and make use of structure8. Look for an express regularity in repeated reasoning