

Grade 8 Algebra 1

Contents

Thinking with Mathematical Models

Linear and Inverse Variation

- 1 Exploring Data Patterns
- 2 Linear Models and Equations
- 3 Inverse Variation
- 4 Variability and Associations in Numerical Data
- 5 Variability and Associations in Categorical Data

Looking for Pythagoras

The Pythagorean Theorem

- 1 Coordinate Grids
- 2 Squaring Off
- 3 The Pythagorean Theorem
- 4 Using the Pythagorean Theorem Understanding Real Numbers
- 5 Using the Pythagorean Theorem Analyzing Triangles and Circles

Growing, Growing, Growing

Exponential Functions

- 1 Exponential Growth
- 2 Examining Growth Patterns Exponential Functions
- 3 Growth Factors and Growth Rates
- 4 Exponential Decay Functions
- 5 Patterns with Exponents

Frogs, Fleas, and Painted Cubes

Quadratic Functions

- 1 Introduction to Quadratic Functions
- 2 Quadratic Expressions
- 3 Quadratic Patterns of Change
- 4 Frogs Meet Fleas on a Cube [More Applications](#)

Butterflies, Pinwheels, and Wallpaper

Symmetry and Transformations

- 1 Symmetry and Transformations
- 2 Transformations and Congruence
- 3 Transforming Coordinates
- 4 Dilations and Similar Figures

Say It With Symbols

Making Sense of Symbols

- 1 Equivalent Expressions
- 2 Generating Expressions
- 3 Solving Equations
- 4 Looking Back at Functions
- 5 Reasoning With Symbols

It's In The System

Systems of Linear Equations and Inequalities

- 1 Linear Equations with Two Variables
- 2 Solving Linear Systems Algebraically
- 3 Systems of Functions and Inequalities
- 4 Systems of Linear Inequalities

Function Junctions

The Families of Functions

- 1 Families of Functions
- 2 Arithmetic and Geometric Sequences
- 3 Transforming Graphs, Expressions, and Functions
- 4 Completing the Square, the Quadratic Formula, and Complex Numbers
- 5 Polynomial Expressions, Functions, and Equations