

ALGEBRA 1 COURSE OVERVIEW

NUMBER AND QUANTITY

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.

MATHEMATICAL PRACTICES

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

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.

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.