

ALGEBRA 1 (CPM 1)—THE BIG PICTURE

- Covers the expected content of any algebra 1 class.
- Reviews over 4-5 chapters what was once traditional algebra content but is now pre-algebra material in some states or offers a six week abridged version allowing students with strong pre-algebra skills to quickly get to chapter six.
- Concepts are based on memorable activities or concrete models so more students will be successful. For example the first experience with graphing equations is an outside activity, the “algebra walk.” Multiplication and factoring of polynomials are introduced with a concrete model, algebra tiles, before moving to the abstract.
- The first five chapters cover:
 - Arithmetic of integers and rational numbers.
 - Graph interpretation and graphing linear and nonlinear functions.
 - Review of plane geometric formulas.
 - Combining like terms and the distributive property.
 - Writing and solving linear equations.
 - Ratios in the context of proportions, similar figures, direct variation, and percent.
- The sixth chapter consolidates what has been covered so far by extending graphing and solving equations to simple systems and extends the distributive property to multiplying binomials.
- Chapters seven through 12 cover:
 - Slope and the equation of lines.
 - Factoring and solving quadratic equations by factoring or the quadratic formula.
 - Using the Pythagorean theorem to focus square roots and using diagrams to write equations.
 - Solving systems by elimination.
 - Properties of exponents.
 - Rational expressions and equations.
 - Functions and absolute value.
 - Problem solving and inequalities.
- The final chapter consolidates and extends using lines and curves of best fit, the proof of the quadratic formula, and more about quadratic functions.
- Each chapter reviews the concepts developed previously and all chapters contain a culminating big problem to tie together and/or possibly extend the algebra concepts.