

**Alaska State Standards
correlated to
Merit Software Math Programs**

In 1993, Alaskans embarked on a campaign to bring higher standards and accountability to their public school system. The cornerstone of this effort was the development of content standards in ten core subject areas. The standards represent what Alaskans want students to know and be able to do as a result of their public schooling. During 1994 and 1995, the Alaska State Board of Education adopted these standards and key elements as voluntary guidelines for Alaska's schools.

Merit's Math programs address the following Alaska State Standards:

Grades 3-12 pg. 2-4

Subhead	Content	Performance Standard	Merit Software
Math	A. A student should understand mathematical facts, concepts, principles, and theories.	<p>A student who meets the content standard should:</p> <ol style="list-style-type: none"> 1) understand and use numeration, including <ul style="list-style-type: none"> • numbers, number systems, counting numbers, whole numbers, integers, fractions, decimals, and percents; and • irrationals and complex numbers; 2) select and use appropriate systems, units, and tools of measurement, including estimation; 3) perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools for computation or estimation including mental arithmetic, paper and pencil, a calculator, and a computer; 4) represent, analyze, and use mathematical patterns, relations, and functions using methods such as tables, equations, and graphs; 5) construct, draw, measure, transform, compare, visualize, classify, and analyze the relationships among geometric figures; and 6) collect, organize, analyze, interpret, represent, and formulate questions about data and make reasonable and useful predictions about the certainty, uncertainty, or impossibility of an event. 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	B. A student should understand and be able to select and use a variety of problem-solving strategies.	<p>A student who meets the content standard should:</p> <ol style="list-style-type: none"> 1. use computational methods and appropriate technology as problem-solving tools; 2. use problem solving to investigate and understand mathematical content; 3. formulate mathematical problems that arise from everyday situations; 4. develop and apply strategies to solve a variety of problems; 5. check the results against mathematical rules; 6. use common sense to help interpret results; 7. apply what was learned to new situations; and 8. use mathematics with confidence. 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	C. A student should understand and be able to form and use appropriate methods to define and explain mathematical relationships.	<p>A student who meets the content standard should:</p> <ol style="list-style-type: none"> 1. express and represent mathematical ideas using oral and written presentations, physical materials, pictures, graphs, charts, and algebraic expressions; 2. relate mathematical terms to everyday language; 3. develop, test, and defend mathematical hypotheses; and 4. clarify mathematical ideas through discussion with others. 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2

Math	D. A student should be able to use logic and reason to solve mathematical problems.	<p>A student who meets the content standard should:</p> <ol style="list-style-type: none"> 1. analyze situations; 2. draw logical conclusions; 3. use models, known facts, and relationships to explain the student's reasoning; 4. use deductive reasoning to verify conclusions, judge the validity of arguments, and construct valid arguments; and 5. use inductive reasoning to recognize patterns and form mathematical propositions. 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2
Math	E. A student should be able to apply mathematical concepts and processes to situations within and outside of school.	<p>A student who meets the content standard should:</p> <ol style="list-style-type: none"> 1. explore problems and describe results using graphical, numerical, physical, algebraic, and verbal mathematical models or representations; 2. use mathematics in daily life; and 3. use mathematics in other curriculum areas. 	Word Problem Shape-Up Set 1, 2, 3; Fraction Shape-Up; Pre-Algebra Shape-Up; Basic Algebra Shape-Up Set 1 & 2