Minnesota State Standards Correlated to Merit Software Math Programs

Basic

Objective	Expectations	Merit Software
Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.	1. Communicate, reason and represent situations mathematically. 2. Solve problems by distinguishing relevant from irrelevant information, sequencing and prioritizing information and breaking multi-step problems into simpler parts. 3. Evaluate the reasonableness of the solution by considering appropriate estimates and the context of the original problem. 4. Know when it is appropriate to estimate and when an exact answer with whole numbers, fractions or decimals is needed. 5. Express a written problem in suitable mathematical language, solve the problem and interpret the result in the original context. 6. Support mathematical results using pictures, numbers, and words to explain why the steps in a solution are valid and why a particular solution method is appropriate.	Word Problem Shape-Up Fraction Shape-Up

Advanced

Objective	Expectations	Merit Software
Solve simple equations and inequalities numerically, graphically, and	1. Translate among equivalent forms of expressions, such	Pre-Algebra Shape-Up

symbolically. Use recursion to model and solve real-world and mathematical problems.	as, simplify algebraic expressions involving nested pairs of parentheses and brackets, simplify rational expressions, factor a common term from an expression and apply associative, commutative and distributive laws. 2. Understand the relationship between absolute value and distance on the number line and graph simple expressions involving absolute value such as, $\|x - 3\| = 6$ or $\|x + 2\| < 5$. 3. Find equations of a line given two points on the line, a point and the slope of the line or the slope and the y intercept of the line. 4. Translate among equivalent forms of linear equations and inequalities. 5. Use a variety of models such as equations, inequalities, algebraic formulas, written statements, tables and graphs or spreadsheets to represent functions and patterns in real-world and mathematical problems. 6. Apply the laws of exponents to perform operations on expressions with integer exponents. 7. Solve linear equations and inequalities in one variable with numeric, graphic and symbolic methods. 8. Find real solutions to quadratic equations in one variable with numeric, graphic and symbolic methods. 9. Use appropriate terminology and mathematical notation to define and represent	Basic Algebra Shape-Up Word Problem Shape-Up

	recursion. 10. Create and use recursive formulas to model and solve real-world and mathematical problems. 11. Solve systems of two linear equations and inequalities with two variables using numeric, graphic and symbolic methods. 12. Understand how slopes can be used to determine whether lines are parallel or perpendicular. Given a line and a point not on the line, find the equations for the lines passing through that point and parallel or perpendicular to the given line.	