

THE BRIDGE GOALS

GOAL 1

INTEGRATION INTO BROADER KNOWLEDGE *The student will develop, analyze, communicate, and apply models to real-world situations, using the language of mathematics and appropriate technology.*

Expectation 1.1 The student will model and interpret real-world situations, using the language of mathematics and appropriate technology.

Indicators

1.1.1 The student will determine and interpret a linear function when given a graph, table of values, essential characteristics of the function, or a verbal description of a real-world situation.

1.1.2 The student will determine and interpret a quadratic function when given a graph, table of values, essential characteristics of the function, or a verbal description of a real-world situation. **1.1.3** The student will determine and interpret an exponential function when given a graph, table of values, essential characteristics of the function, or a verbal description of a real-world situation.

Expectation 1.2 Given an appropriate real-world situation, the student will choose an appropriate linear, quadratic, or exponential model and apply that model to solve the problem. **Expectation 1.3**

The student will communicate the mathematical results in a meaningful manner. **Indicators**

1.3.1 The student will describe the reasoning and processes used in order to reach the solution a problem.

1.3.2 The student will ascribe a meaning to the solution in the context of the problem and consider the reasonableness of the solution. **MATHEMATICAL**

CONCEPTS, LANGUAGE, AND SKILLS • *The student will demonstrate the ability to analyze a wide variety of patterns and functional relationships using the language of mathematics and appropriate technology.* **Expectation 2.1** The student will be familiar with basic

terminology and notation of functions.

Indicators 2.1.1 The student will identify and use alternative representations of

functions. **2.1.2** The student will identify the domain, range, or rule of a function.

Expectation 2.2 The student will perform a variety of operations and geometrical transformations on functions. **Indicators 2.2.1** The student will add,

subtract, multiply, and divide functions. **2.2.2** The student will find the composition of two functions and determine algebraically and graphically if two functions are inverses. **2.2.3** The student will perform translations, reflections, and dilations on functions. **Expectation 2.3** The student will identify linear and

nonlinear functions expressed numerically, algebraically, and graphically. **Expectation 2.4** The student will describe or graph

notable features of a function using standard mathematical terminology and appropriate technology. **Expectation 2.5** The

student will use numerical, algebraic, and graphical representations of functions in order to solve equations and inequalities.

Expectation 2.6 The student will solve algebraically two-variable systems of linear equations and solve graphically two-variable systems of linear inequalities. **Expectation 2.7** The student will use the appropriate skills to assist in the analysis of functions. **Indicators** **2.7.1** The student will add, subtract, multiply, and divide simple rational expressions. **2.7.2** The student will solve quadratic equations of the form $y = x^2 + bx + c$ by factoring and the quadratic formula.

2.7.3 The student will operate with rational exponents. **2.7.4** The student will add, subtract, multiply, and divide radicals in both radical and exponent form.

Expectation 2.8 The student will solve literal equations and formulas.