

Transition to STEM Unit Rubrics
Rational Functions

Standard	4 - Mastery	3 - Proficient	2 - Basic	1- Below Basic	0 - No Evidence
CA-A1-A Understand the concept of a function and use function notation.	A. Apply composite function properties in an authentic task. AND A. Explain why an authentic task does not represent a function with explicit examples.	A. Use function notation to model a function from an authentic task. AND A. Explain why an authentic task represents a function with explicit examples.	A. Write the relationship in words, as expression, or an equation not using function notation. AND A. Explain why an authentic task represents a function without explicit examples.	A. Recognize x is the independent variable and $f(x)$ is the dependent variable. AND A. Determine if a relation is a function.	A. Not yet able to understand a function or use function notation.
CA-A1-B Interpret the dependent and independent variables in the context of functions.	B. Describe the relationship the dependent and independent variables have within an authentic task.	B. Identify and interpret the independent and dependent variables within an authentic task.	B. Identify the independent and dependent variable within an authentic task.	B. Identify the independent or dependent variable within an authentic task.	B. Not yet able to determine the dependent or independent variables within an authentic task.
CA-A1-C Create and interpret expressions for functions in terms of the situations they model including selecting appropriate domains for these functions.	C. Find and correct errors of functions which represent an authentic task. Explain errors and corrections. Defend function if no error exists.	C. Write and interpret functions representing an authentic task including stating appropriate domain.	C. Write functions representing an authentic task.	C. Identify the parts of a function given for an authentic task.	C. Not yet able to write and explain a function from an authentic task which includes stating appropriate domain.
CA-A1-D Understand the relationship between a function and its graph.	D. Describe key parts of the graph and the corresponding parts (or process to find) making connections to the equation of a function.	D. Describe the type of relationship between a function and its graph within an authentic task.	D. Match a function to a graph.	D. Identify key features of a graph.	D. Not yet able to explain the relationship between a function and its graph.
CA-A1-E Find the domain, including implied domains, and the range of a function.	E. Explain and defend the implied domain of a function from an authentic task.	E. Find the domains, implied domains, and ranges of functions within an authentic task.	E. Find the domains, implied domains, and ranges of functions using equations.	E. Find the domain and range of functions graphically.	E. Not yet able to find the domains, implied domains, and ranges of functions.
CA-A1-F Analyze functions using different representations (verbal, graphic, numeric, algebraic).	F. Justify the most appropriate representations of functions and defend interpretations within an authentic task.	F. From various representations, analyze and interpret a function within an authentic task.	F. From various representations, analyze and interpret a function.	F. From one representation, analyze a function (verbally, graphically, or algebraically).	F. Not yet able to analyze functions using different representations within an authentic task.
CA-A2-RTF-O Solve applications and create models involving rational equations.	O. Find and correct errors with rational equations which represent an authentic task. Explain errors and corrections. Justify process if no errors are made.	O. Write a rational equation which represents an authentic task. AND O. Interpret solutions of rational equations from an authentic task.	O. Solve a given rational equation from an authentic task.	O. Identify independent and dependent variables of an authentic tasks. AND O. Identify appropriate formulas needed.	O. Not yet able to write or interpret solutions of rational equations from an authentic task.

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CA-A2-RTF-P Simplify rational expressions.	P. Find and correct errors when simplifying a rational expression from an authentic task. Explain errors and corrections. Justify process if no errors exist.	P. Simplify a rational expression from an authentic task.	P. Simplify a rational expression. AND P. Perform operations on rational expressions.	P. Factor polynomial expressions in the numerator or denominator. AND P. Operate with fractions (add, subtract, multiply, divide).	P. Not yet able to simplify a rational expression.
CA-A2-RTF-Q Solve rational equations.	Q. Find and correct errors when solving a rational equation from an authentic task. Explain errors and corrections. Justify process if no errors exist.	Q. Solve a rational equation from an authentic task. Interpret solutions.	Q. Solve a rational equation. Identify extraneous solutions.	Q. Simplify rational expressions. AND Q. Solve linear and quadratic equations. AND Q. Recognize division by 0 is undefined.	Q. Not yet able to solve a rational equation.
CA-A2-RTF-R Solve rational inequalities algebraically.	R. Justify the process used to solve a rational inequality from an authentic task.	R. Solve a rational inequality from an authentic task. Interpret solutions.	R. Solve a rational inequality.	R. Evaluate a rational expression for a given input. AND R. Recognize division by 0 is undefined.	R. Not yet able to solve a rational inequality.