

Transition to STEM Unit Rubrics
Radical 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 independent or dependent 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-RDF.S. Solve applications and create models involving radical equations.	S. Find and correct errors with radical equations which represent an authentic task. Explain errors and corrections. Justify process if no errors made.	S. Write a radical equation which represents an authentic task. AND S. Interpret solutions of radical equations from an authentic task.	S. Solve a given radical equation from an authentic task.	S. Identify independent and dependent variables of an authentic task. AND S. Identify appropriate formulas needed.	S. Not yet able to write or interpret solutions of radical equations from an authentic task.
CA-A2-RDF-T Convert between radical and rational exponent notation.	T. Convert between rational exponents and radicals to simplify an expression.	T. Rewrite problems from an authentic task involving radical and rational exponents.	T. Rewrite problems involving radical and rational exponents.	T. Identify the index of a radical.	T. Not yet able to convert problems involving radical and rational exponents.

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<p>CA-A2-RDF-U Simplify expressions involving radicals and rational exponents using appropriate exponent rules.</p>	<p>U. Find and correct errors when applying exponent rules to simplify radical, rational, and exponent expressions from an authentic task. Explain errors and corrections. Justify process if no error is made.</p>	<p>U. Apply exponent rules to simplify radical and rational exponent expressions from an authentic task.</p>	<p>U. Apply exponent rules to simplify radical and rational exponent expressions.</p>	<p>U. Use properties of exponents. AND U. Operate with fractions. AND U. Convert between radicals and rational exponents.</p>	<p>U. Not yet able to apply exponent rules to simplify radical and rational exponent expressions.</p>
<p>CA-A2-RDF.V. Solve equations involving radical expressions. *Assume real numbers</p>	<p>V. Find and correct errors with solving radical equations from an authentic task. Explain errors and corrections. Justify process if no error is made.</p>	<p>V. Solve equations with radicals from an authentic task. Interpret solutions.</p>	<p>V. Solve equations with radicals. Identify extraneous solutions.</p>	<p>V. Recognize when the index is even, the radicand cannot be negative (over the real numbers).</p>	<p>V. Not yet able to solve an equation with radicals.</p>